SUNRISE RIVER

WATERSHED MANAGEMENT ORGANIZATION

FOURTH GENERATION

WATERSHED MANAGEMENT PLAN

Adopted by SRWMO Board November 7, 2019

As amended through Jan 2026

Prepared by the SRWMO Board of Managers
with assistance from the
Anoka Conservation District

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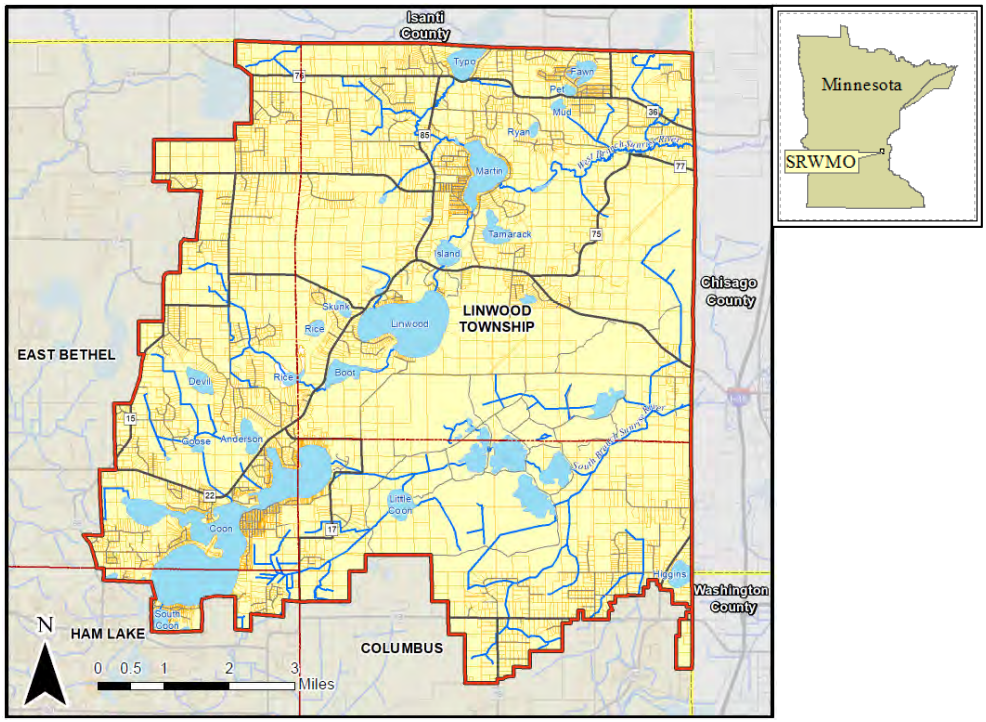
1 EXECUTIVE SUMMARY

This Watershed Management Plan guides the actions of the Sunrise River Watershed Management Organization (SRWMO) from 2020-2029. It was prepared with thoughtful input from constituents, professional water managers, municipal staff, municipal elected officials and the SRWMO Board. It includes water monitoring, water quality improvement projects, minimum standards for community ordinances and public outreach. The plan also sets financial goals, recognizing that water management need is greater than available funds. The plan seeks to be prioritized, targeted and aimed at producing measurable results.

The Metropolitan Surface Water Management Act requires a watershed management organization and watershed management plan in all areas of the seven county Twin Cities metropolitan area. The Sunrise River Watershed Management Organization (SRWMO) was originally formed in 1985 when the Cities of East Bethel and Columbus, and Linwood Township, entered into a Joint Powers Agreement to establish a Watershed Management Organization (WMO). The current Joint Powers Agreement includes the City of Ham Lake. The agreement was drafted with the authority of Minnesota Statutes, Section 471.59. The Joint Powers Agreement provides for the preparation of a Watershed Management Plan (hereinafter called Plan) in accordance with Minnesota Statutes, Sections 103B.231.

The portion of the Sunrise River Watershed covered by this plan is located in the northeast corner of Anoka County (Figure 1). This portion of the watershed is approximately 45,300 acres in size. The Sunrise River watershed does extend outside of Anoka County, but those areas are not part of the SRWMO. The SRWMO does participate in a Lower St. Croix One Watershed One Plan in order to achieve true watershed-scale management.

Figure 1 – SRWMO location map



Philosophies considered in this plan's development included:

- Water-related problems are community problems and not individual problems.
- Water resource management is a vital matter that cannot be effectively addressed by individual communities because watersheds cover multiple communities.
- Water resources should be managed on a watershed basis.
- Aquatic and terrestrial areas are integrally linked and cannot be effectively managed separately.

The WMO will serve the community by:

- Providing a forum to consider inter-community water problems.
- Collecting data and conducting resource monitoring to guide management.
- Facilitating water quality improvement projects, which often will be cooperative endeavors with others.
- Setting minimum standards for member community ordinances that consider local water resources issues. The SRWMO will not have its own permitting program.
- Providing a linkage between natural resources and land use planning decisions.
- Educating the public about water resources, and enabling or incentivizing individual action.
- Informing and engaging local elected officials about water problems, projects and the SRWMO.
- Ensuring expenditures result in corresponding benefits to the public.
- Avoiding duplication among government agencies and communities.

This plan contains goals, policies, and an action plan for each of these priority topics.

<u>High Priority Issues</u>

1. Lake and stream water quality
2. Water monitoring
3. Funding
4. Communications with member communities
5. Outreach and education

<u>Medium Priority Issues</u>

6. Aquatic invasive species (AIS)
7. Septic systems
8. Development
9. Multi-partner coordination
10. Stormwater management
11. Groundwater
12. Administrative efficiencies
13. Chlorides

<u>Lower Priority Issues</u>

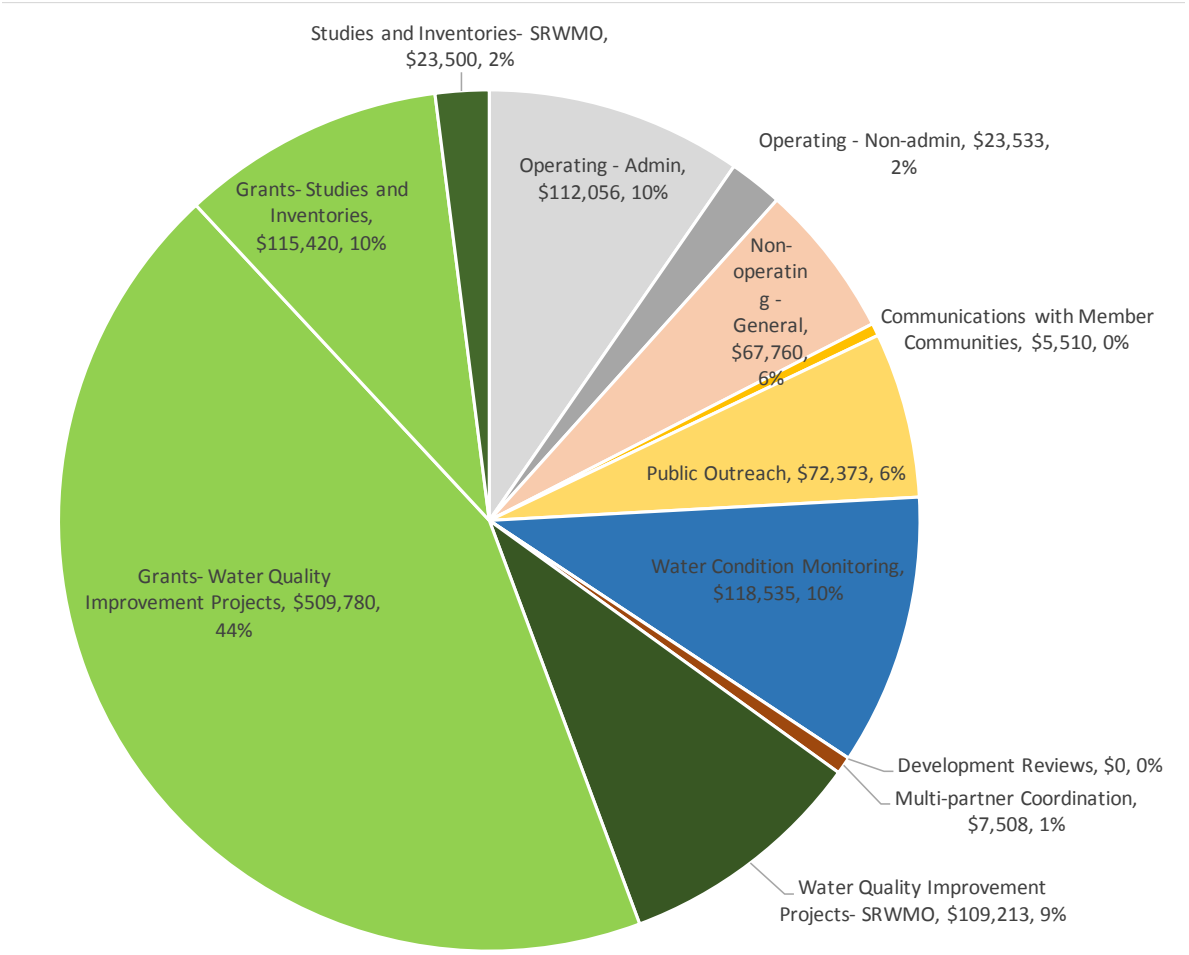
14. Ditching/Drainage
15. Climate change
16. Water quantity
17. Fisheries
18. Wildlife habitat

The SRWMO intends to run a financially lean, focused, transparent and effective program. This will be done by:

- Minimizing overhead (no staff, office or vehicles),
- Setting budgetary limits ($50,000/yr until 2026 at which time an inflationary increase to $60,000/yr will take place),
- Securing grants for 50% of anticipated expenditures in this plan (budget local funds required to match grants, have a strong plan that identifies priorities),
- Purposefully engaging with stakeholders (especially lake associations, many of whom are able to provide small but meaningful financial contributions),
- Keeping constituents, member community city councils and town board informed and part of the decision-making process.

The 10-year expenditures in this plan are shown in Figure 2.

Figure 2 - SRWMO 10-year planned expenditures. Note that grants are not yet secured.



Some notable work within this plan includes:

- **Grant searches** - Annual efforts to secure grants.
- **Monitoring** - Monitor lakes and streams at a frequency adequate to detect changes.
- **Carp management** - Reach carp removal goals at Martin and Typo Lakes for water quality and habitat improvement.
- **Stormwater treatment** - Complete stormwater retrofit treatment projects already identified and ranked at Martin and Coon Lakes.
- **Grants to residents through lake associations** - Start a new grant program, run through lake associations, to incentivize lakeshore stewardship projects.
- **Targeted lakeshore outreach** – Approach residents with eroding shorelines to offer technical and financial assistance.
- **Alum studies** - Complete alum feasibility studies at impaired lakes. Implement treatments where supported.
- **Development reviews** - Begin reviewing sketch plans of new developments. Non-binding comments will be provided to the community.
- **1W1P** - Participate in the Lower St. Croix One Watershed One Plan. Participation includes both planning and implementation. Access to State Watershed Based Funding for implementation is anticipated.
- **Outreach coordinator** - Support a new-in-2018 Anoka County Water Resources Outreach Coordinator housed at the Anoka Conservation District. This position increases efficiency and consistency by having one person produce materials/programs that are used by many watershed organizations and cities.

While this plan strives to identify prioritized and targeted work that will achieve measurable results, it also anticipates annual fine-tuning. The plan incorporates by reference several guidance documents. These are studies or plans that contain science, professional judgement and stakeholder input regarding local water resources. These include a regional One Watershed One Plan, total maximum daily load studies, watershed restoration and protection strategies, and local studies. While today's favored projects are shown in the implementation section of this plan, the SRWMO may in time modify or replace these projects with others in the guidance documents. New science, social considerations or other factors might prompt a change.

In addition to serving as a guide to the SRWMO, this plan is also a guide for the member communities. Each member community must adopt a Local Water Plan consistent with Minnesota Statutes 130B.235 and this plan. Communities will also need to update portions of their ordinances for septic systems, wetlands and stormwater to be consistent with SRWMO standards.

This plan directs the SRWMO until approximately January 1, 2030. The actual expiration date will be 10 years after MN Board of Water and Soil Resources approval.

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3 INTRODUCTION

3.1 SRWMO'S ORIGIN AND DIRECTION

In 1982 the State approved the Metropolitan Surface Water Act, Minnesota Statutes 103B. This act requires all metropolitan area local governments to address surface water management through participation in a water management organization (WMO). A WMO can be organized as a watershed district, a joint powers agreement (JPA) among cities, or as a function of county government. The SRWMO was formed in 1985 through a Joint Powers Agreement ratified by Columbus, East Bethel, and Linwood Township (see Maps 1 & 2) in order to cooperatively develop a Watershed Management Plan and form the Sunrise River Watershed Management Organization (SRWMO). The joint powers agreement is available on the SRWMO website.

While most watershed organization's boundaries are based on hydrological watershed boundaries, this is not entirely the case for the SRWMO. Because watershed organizations are only required in the seven-county metropolitan area, the SRWMO's east and north boundaries are the Anoka County boundaries. To the north, portions of Isanti County drain into the SRWMO jurisdiction. To the east, the SRWMO outlets into Chisago County.

Through its history the SRWMO has gone through several generalized phases. These might be outlined as follows:

Inception – 1990's	Organizing and orienting
1990's – 2000	Baseline data collection through water monitoring
2000 – 2010	Diagnostic monitoring and impaired waters studies
2010 – present	Water quality projects plus water quality monitoring

In the years to come, we anticipate increased emphasis on regional collaboration. This is occurring through the Lower St. Croix One Watershed One Plan, in which the SRWMO is participating. We also anticipate increasing collaboration with Isanti County and Isanti Soil and Water Conservation District, as our collective capacity for action is increasing.

3.2 THE SRWMO'S LANDSCAPE

The Sunrise River Watershed is on the fringe of the Twin Cities metropolitan area. It has relatively flat topography and contains extensive lake and wetland areas. The area also has large areas of high quality natural communities, including large areas of public lands. Scattered rural residential occurs throughout. Water management is important in this water-rich area.

Historically, residential development has tended to occur primarily around lakes, first as cabins and then converted to year-round homes. While close to the Twin Cities Metropolitan Area, future expected growth is light and mostly residential. Agriculture has been a significant land use in the watershed in the past, but is diminishing as landowners offer their land for development. Future development in the watershed will be primarily rural residential and limited by the availability of buildable land.

The abundant lakes, wetlands, and slow-moving streams in the SRWMO range widely in quality. For example, Fawn Lake is one of the clearest lakes in east-central Minnesota, while Typo Lake is one of the most turbid. Most of the waterbodies are shallow. Most of the waterbodies, particularly the lakes, are used for recreation.

3.3 SRWMO PHILOSOPHICAL APPROACH

Legal Responsibilities - The philosophy of the SRWMO Managers is based foremost on their responsibilities under the Metropolitan Surface Water Management Act Chapter 103B and MN Rules 8410. Philosophical beliefs include:

- Water-related problems are community problems and not individual problems.
- Water resource management is a vital matter that cannot be effectively addressed by individual communities because watersheds cover multiple communities.
- Water resources should be managed on a watershed basis.
- Aquatic and terrestrial areas are integrally linked and cannot be effectively managed separately.

Disproportionately More Water Needs than Funding - A foundational reality is that the SRWMO's water resources are disproportionately large compared to its financial resources. The area is water rich with both high value and highly degraded waters. According to the National Wetland Inventory, the SRWMO has over 25,000 acres of lakes, streams and wetlands comprising >55% of the SRWMO's land area. Large areas are public lands, including the Carlos Avery Wildlife Management Area, and comprise approximately 38% of the SRWMO. What's not wet or publicly owned is rural residential, and even these homes tend to be scattered due to wetlands. There is no industrial or commercial center. Therefore, tax base is relatively small compared to the extent of water resources.

The need for water management can be expressed numerically. The area has three impaired lakes and three impaired stream reaches (excludes mercury in fish impairments). Nutrient reductions needed to achieve water quality standards in the three impaired lakes are 23%, 41% and 81%. Fixing these lakes will improve recreation and property values, and help address other impairments such as excess nutrients in the Sunrise River and Lake St. Croix. Two of the stream impairments (two reaches of the W Branch Sunrise River) are caused by upstream lake impairments and should be corrected through lake management. The other impaired stream (S Branch Sunrise R) is has low oxygen that is understood to be caused by upstream wetlands in the Carlos Avery WMA and is not a management priority for State or local government. Overall, a 20% phosphorus reduction is sought for Lake St. Croix, to which all SRWMO waters drain.

Fixing the impaired waters will require persistent partnerships and grant funds. Collectively, 10,355 lbs of phosphorus reduction are needed to achieve State water quality standards. Costs for reducing phosphorus vary widely, but $1,000/lb/yr is commonplace. Using this figure, nearly $10.5 million dollars are needed, excluding management of waters that are not impaired and collateral costs such as administration. Due to these factors, prioritization with short- and long-term goals is an important part of the SRWMO's operational philosophy.

Grant Dependence - While financial support from its member communities are sufficient for a number of basic operations, including water monitoring, most projects happen only if a grant is secured. Therefore, the SRWMO strives to provide the 25% match required by most grants in addition to funding the many operations that grants won't typically pay for (administration, water monitoring, outreach and education, etc). Grants were approximately 57% of SRWMO expenditures under its 3rd Generation Watershed Management Plan. The SRWMO has a goal of at least 50% of its expenditures being from grants under this new 4th Generation Plan.

Minimize Overhead - This is an organization which seeks to minimize administration and overhead while maximizing dollars spent on projects. Toward that end, it has no office, no vehicles and no staff. It does contract for services from the Anoka Conservation District or consultants. General operating expenses including secretarial, insurance, mandatory reporting, and administrative assistance were approximately 12% of SRWMO expenditures under its previous (3rd Generation) watershed management plan.

Collaboration Emphasized - The SRWMO Managers seek the cooperation and assistance of governmental agencies, municipalities, and citizens within the SRWMO. Developing the active and affirmative support of these groups is essential. Two especially important groups are lake associations and city councils. Support, including financial support, from these groups have been essential to many past SRMWO successes.

Avoid Duplication - While the SRWMO places a high importance on partnerships and coordination, avoiding duplication is equally important. Water resources in Minnesota are managed through a complex network of agencies. This plan is intentionally focused upon those issues that are not already handled by other entities, are best handled by a local entity or through a partnership that includes the local entity, and are most directly in the SRWMO's jurisdiction.

No Regulatory Program - The SRWMO has neither intention nor desire to develop a regulatory permitting program. It is the Managers' intention that any standards required by the SRWMO will be integrated into existing regulatory programs implemented by member communities. The SRWMO will provide input when requested related to SRWMO standards.

3.4 Development of this Plan

The development and content of the plan follow Minnesota Rules 8410. This plan builds upon the work completed under previous plans. Planning occurred through a process that involved citizens, local public officials, and other agencies.

The plan development process began with a concerted effort to gather input from the public and agencies. It included four different venues for gathering input before planning began, plus utilizing citizens and technical advisory committees throughout the planning process. Additionally, planning materials and drafts were posted on the SRWMO website. These stakeholder engagement efforts are documented in Appendix A. The development of this plan culminated with the 60- and 90-day review periods and public hearing that are required by MN Statutes 103B.231 subparts 7-10.

3.5 DURATION OF THIS PLAN

This plan will expire 10 years after approval by the MN Board of Water and Soil Resources. The plan is generally expected to serve the SRWMO for the ten year period of 2020 through 2029.

4 RESOURCE INVENTORY AND ASSESSMENT

4.1 PURPOSE OF THE INVENTORY

The Metropolitan Surface Water Management Act and Minnesota Rules 8410.0060 requires that a watershed management plan include an inventory of the existing and future conditions of its watershed, with emphasis on water resources and physical factors affecting water resources. The purpose of this inventory is to provide sufficient information for basic understanding of this plan.

4.2 LOCATION AND WATERSHED BOUNDARIES

The actual physical watershed boundaries of the Sunrise River (meaning land area with surface water draining to the Sunrise River) includes portions of Anoka, Washington, Isanti and Chisago Counties. For the purpose of this plan, the terms Sunrise River Watershed or watershed shall imply the watershed boundaries of the Sunrise River Watershed Management Organization, as described below:

The Sunrise River Watershed is located in the northeast corner of Anoka County (see Map 1). The watershed is approximately 45,300 acres in size, comprised of parts of the Cities of East Bethel, Ham Lake, and Columbus, along with Linwood Township (Map 2). Linwood Township is entirely within the watershed. The north and east boundaries of the watershed are the Anoka County boundaries with Isanti County (north) and Chisago and Washington Counties (east). The Sunrise River Watershed is bound on the west by the Upper Rum River Watershed, and on the south by Coon Creek and Rice Creek Watersheds. The Sunrise River Watershed is part of the Lower St. Croix River Watershed (USGS Hydrological Code 07030005).

4.3 GEOLOGY, SOILS AND TOPOGRAPHY

The landscape of the Sunrise River Watershed was shaped by several ice advances into east central Minnesota during the last glaciation, which occurred about 10,000 years ago. In the Sunrise River Watershed a large glacial outwash deposit, called the Anoka Sand Plain is the dominant geomorphic feature. It was formed largely by glacial drainage (melt-water) from the receding Grantsburg sub-lobe of the Des Moines glacier. The surface of the Anoka Sand Plain is flat to moderately undulating. Low regions of upland represent areas of till left from previous ice movements that were not buried by the outwash sand. Other features of positive relief are patches of sand dunes, formed by southwesterly winds after the outwash streams left the sand plain. Landscape features of negative relief include numerous lakes and marshes, which formed as ice blocks, originally buried by the outwash sand that melted to create the depressions, and are now filled with water or organic soils. As a result of the above-mentioned glacial actions, glacial outwash is the predominant surficial geologic formation in the watershed, about one-third of which is covered by organic soils.

The Anoka Sand Plain is also characterized by a shallow water table. Often the water table is within 6 feet of the surface. The numerous wetlands and lakes in the watershed can be thought of as visible exposures of the water table. The area is generally

considered a groundwater recharge area, which is of importance given the nearby metropolitan area which draws heavily upon groundwater.

More detailed information about the hydrogeology of the area is available in the Minnesota Geological Survey's "Anoka Sand Plain Regional Hydrogeologic Assessment" (1993) and the Anoka County Geologic Atlas Part A – Geology (2013) available on the University of MN website and Part B- Hydrology (2016) available on the MN DNR website.

There are two different general soil associations within the watershed as determined by the "Soil Survey of Anoka County, Minnesota" (1977; see Map 3):

1. Zimmerman-Isanti-Lino Association
   The topography of these soils is level to undulating. Drainage is excessive to very poorly drained. These soils are dominated by fine sands throughout.
2. Rifle-Isanti Association
   The topography of these soils is nearly level. They are very poorly drained soils formed in organic material and fine sand.

A detailed map showing all the soil types of Anoka County is provided in the United States Department of Agriculture Soil Conservation Service publication entitled *Soil Survey of Anoka County, Minnesota*, published in 1977. A complete digital representation of the soils survey data is also available on the US Department of Agriculture Web Soil Survey website.

Maps in this plan depict soil survey information that is most relevant for watershed managers. These include:

Map 3 Soil Associations
Map 4 Hydrologic Soil Group
Map 5 Soil Drainage Classifications
Map 6 Soil Slopes
Map 7 Septic Drainfield Limitations
Map 8 Basement Limitations

4.4 Natural Land Cover

The Sunrise River Watershed contains a variety of natural communities, sites of biodiversity significance, and regionally significant natural areas. Several inventories of important natural areas and are described below.

Native Plant Communities – Native plant communities are, according the MN DNR, a group of native plants that interact with each other and their environment in a way that is not greatly altered by modern human activity. 19% (8,642 acres) of the watershed area is identified native plant communities (Map 9). Many of these areas exist within public natural areas or lie within a matrix of wetlands which made development or farming difficult.

Sites of Biodiversity Significance - The Minnesota Biological Survey (MBS) has identified Sites of Biodiversity Significance. Sites of Biodiversity Significance are

ranked based upon presence of rare species, size and condition of native plant communities and landscape context or position. These areas are shown in Map 9.

Threatened and Endangered Species - The MN DNR Division of Ecological Resources tracks and inventories qualified sightings of rare plant, animal and insect species. The location of the sightings is kept confidential to reduce the likelihood of intentional disturbance. Map 10 shows their general location.

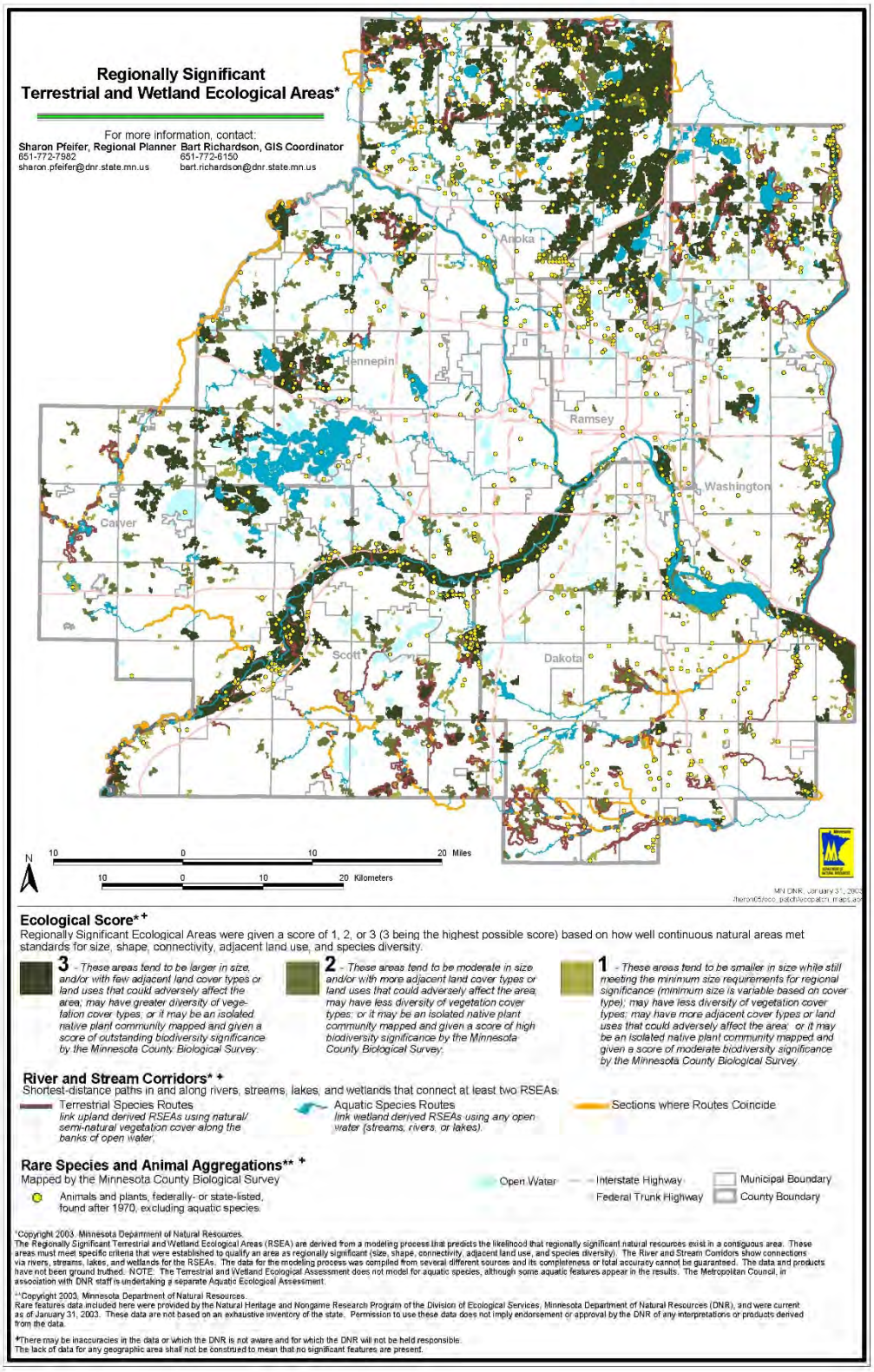
Regionally Significant Ecological Areas (RSEA) - The SRWMO contains several Regionally Significant Ecological Areas (RSEA; Figure 3). The DNR's Central Region (in partnership with the Metropolitan Council in the seven-county metropolitan area) identified these ecologically significant terrestrial and wetland areas by conducting a landscape-scale assessment based on the size and shape of the ecological area, land cover within the ecological area, adjacent land cover/use, and connectivity to other ecological areas. The purpose of the data is to inform regional scale land use decisions, especially as it relates to balancing development and natural resource protection.

Lake Phosphorus Sensitivity – The MN DNR has identified lakes state-wide that are of Phosphorus Sensitivity Significance. SRWMO lakes with this designation include:

Highest	Coon Lake
Higher	Island and Fawn Lakes
High	Linwood, Martin and Typo Lakes

Waterbodies - Another significant ecological feature of the watershed is the extensive wetland areas (see Maps 11 and 12). Wetlands or lakes cover 50% of the watershed. There are 9,441 acres of DNR public waters wetlands and 10,342 acres of other wetlands. Additionally, there are 19 lakes, eight of which have a managed fishery. Wild rice is found in several waterbodies, including Boot, Mud, Rice, and Tamarack Lakes.

Figure 3 – Regionally Significant Ecological Areas (source: MN DNR)



4.5 Land Use

Development in the watershed is limited by water, wetlands, and an abundance of public lands. Scattered rural residential development is present throughout the watershed. Lot sizes are commonly 2.5 acres or greater, though smaller lots are present in some areas. The most concentrated development is around the lakes. Lakeshore development began as seasonal cabins, but in the last 20-30 years many have been converted to year-round homes. Agriculture is also scattered in the watershed, consisting primarily of sod, corn, soybeans, and some small grains.

Future development in the watershed is expected to be light (<2%) in the next 10 years. Growth forecasts are available for each community from the Metropolitan Council (Table 1). Keep in mind that of these communities only Linwood Township is entirely within the SRWMO. For other communities, the focus of growth will likely be outside of the SRWMO along Highway 65 in East Bethel and along I-35 in Columbus. Metropolitan urban sewer area (MUSA) services are not planned to enter the SRWMO during the planning period.

Table 1 - Population growth forecasts for SRWMO communities (source: Metropolitan Council Jan. 1, 2019).

	Population				% Population Change	
	2010	2020	2030	2040	2020-2030	2010-2040
East Bethel	11,626	12,400	15,400	18,400	24.2%	48.4%
Ham Lake	15,296	16,200	17,700	18,700	9.3%	15.4%
Linwood	5,123	5,100	4,930	4,820	-3.3%	-5.5%
Columbus	3,914	4,220	4,950	5,500	17.3%	30.3%

4.6 Carlos Avery Wildlife Management Area

The Carlos Avery Wildlife Management Area (WMA) is the largest WMA in the Twin Cities metro and a notable feature within the SRWMO. It was established in 1933 for wildlife production, public hunting, trapping, and other recreation compatible with wildlife management. About 10,000 acres of the WMA's 24,000 acres are located in the Sunrise River WMO.

History

The extensive marshes which form much of the WMA were largely untouched by the settlement of Minnesota until the early 1900s. Then, the Crex Carpet Company began managing the marshes for wiregrass used in manufacturing woven rugs. A system of dikes and ditches allowed water level manipulation, prescribed burning, and mowing. Wiregrass production declined after 1925 due to increased competition from synthetic materials and changes in marsh vegetation caused by lowered water levels, repeated mowing, and heavy equipment use. The carpet company was bankrupt by 1930, and much of the land became tax delinquent.

The Minnesota Conservation Commission recognized the area's potential for wildlife, and land acquisition began in 1933 with the Anoka and Chisago County Commissions' approval. Initially, the WMA was managed by a Federal Emergency Conservation Work Camp, and many buildings and wildlife projects were constructed under the Federal Works Progress Administration during the Great Depression. State resident managers have been assigned to the WMA since 1936. Limited land acquisition for the management area continues, focusing on parcels contiguous with the WMA with high wildlife and biodiversity values and low development potential.

Management

Before settlement of the area, the WMA was a mosaic of oak savanna, tall grass prairie, marsh, and tamarack bog. Presently, the area is a mixture of forests, marshes and old fields. Oaks dominate the forests, but they are associated with other hardwood species. Small tracts of oak savanna exists on the WMA. Old fields are planted to grassy cover or food plots for wildlife. Marshes range from dense stands of cattail growing in wet soils to open-water wetlands with emergent bulrushes and sedges.

Fourteen of the 22 wetland pools maintained by the Carlos Avery Wildlife Management Area (WMA) are located in the Sunrise River WMO. Water levels in the pools are managed to favor the growth of desirable aquatic vegetation such as wild rice for wildlife habitat. The pools also provide public recreation, groundwater recharge and flood control to downstream areas.

Managers of the Carlos Avery WMA Units continue to improve managed wetlands, dikes, and water control structures. Funding is sought annually to rehab or replace aging control structures and periodically to request feasibility studies to investigate new and improved ways to manage water for all compatible uses.

4.7 Drainage System Summary

The Sunrise River Watershed has little topographic relief, vast areas of wetlands and only a few natural drainage ways (streams or rivers). Numerous man-made ditches have been constructed to provide drainage for surface water runoff in addition to natural waterways (see Maps section). The two main drainage ways of the watershed are the West Branch of the Sunrise River and the South Branch of the Sunrise River. After leaving the watershed, these two rivers join the Main Branch of the Sunrise River which outlets to the St. Croix River near the town of Sunrise, Minnesota.

The West Branch of the Sunrise River provides drainage for the northern half of the SRWMO. It begins as Isanti County Ditches 13 and 20, which join to form Data Creek and flow into Typo Lake. Typo Lake straddles the Anoka-Isanti County boundary. From Typo Lake, the West Branch of the Sunrise River flows into Martin Lake. Martin Lake also receives discharge from the following chain of lakes – Rice Lake to Boot Lake to Linwood Lake to Island Lake to Martin Lake. The West Branch of the Sunrise River discharges from Martin Lake via a dam on the east side of the lake. From Martin Lake, the West Branch of the Sunrise River flows east for approximately three miles until it exits the watershed through the east boundary.

The South Branch of the Sunrise River starts with Coon Lake located in the southwest corner of the watershed. A v-notch weir on the northeast end of the lake regulates discharge from the lake. From Coon Lake, the South Branch of the Sunrise River flows east into Pool 1 of the Carlos Avery WMA. Flow through the WMA is regulated by a series of dikes and control dams, which create pools for wildlife habitat and public recreation. The river (also referred to as County Ditch No. 12) then flows east until it exits through the east boundary of the watershed at a point approximately ¾ of a mile northwest of the town of Wyoming, Minnesota.

Numerous public and private ditches exist in the watershed. The ditch authority for public ditches (see Maps section) is the Anoka County Highway Department. Ditch maintenance projects are infrequent.

4.8 Wetlands

The DNR Public Waters (Map 11) and National Wetland Inventory (NWI; Map 12) provide inventories of most wetlands in the watershed. These datasets can be readily downloaded from the MN Geospatial Commons website. However these datasets have known limitations, such as limited accuracy of wetland boundaries. More detailed information about individual wetlands must be compiled when projects affecting those wetlands are proposed. Delineation requirements of the Minnesota Wetland Conservation Act provide some assurances that data will be gathered on a case-by-case basis.

4.9 Stream Monitoring and Condition

Streams and ditches are shown in Map 16. Streams where water quality or quantity monitoring has occurred in the last three years are shown in Map 18, and all streams monitored are listed in Table 2. Because most streams and ditches are small and of limited recreational value stream the SRWMO has focused upon larger streams discharging to recreational lakes.

Stream monitoring has included water quality sampling during base flow and storms, continuous water level recording, and rating curve development at some sites. All water quality data has been submitted to the MN Pollution Control Agency's EQuIS database, which is available through the MPCA website. The Anoka Conservation District also maintains a database of this water quality and quantity data; data is available upon request.

Three SRWMO streams are on the State impaired waters list – West Branch Sunrise River up and downstream of Martin Lake, and the South Branch of the Sunrise River (Map 20). The West Branch impairments are for pH, turbidity and aquatic life that are related to conditions in lakes immediately upstream. Corrective actions aimed at Martin and Typo Lakes should correct these impairments.

The South Branch of the Sunrise River is not a focus of management action for the State or SRWMO. It has low dissolved oxygen. No Total Maximum Daily Load (TMDL) study is complete or planned. The MPCA and ACD have concluded that low oxygen is due to natural wetland conditions upstream in the Carlos Avery WMA.

Table 2. Stream sites monitored by the SRWMO 2001-2019.

Water Body	SiteID	STORET_Station_ID	Chemistry	Hydrology	Municipality	Lat UTM	Long UTM
Boot Lake Inlet	BootLakeInlet	S003-215	Yes	Yes	Linwood	5020391.3	489236.7
Data Creek	DataCreek_TypoCreekDr	S003-220	Yes	Yes	Isanti Co	5029427.9	492434
Ditch 13	Ditch13_Hwy20	S003-573	Yes	Yes	Isanti Co	5030260.3	491227.4
Ditch 13	Ditch13_StraightFork	S003-192	Yes	Yes	Isanti Co	5030407.9	490732.1
Ditch 20	Ditch20_Mattsson	S003-210	Yes	Yes	Isanti Co	5029326.1	490986.2
Ditch 56	Ditch56_Hwy22	S003-214	Yes	Yes	East Bethel	5017849.3	487000.2
Dog Fork of Ditch 13	DogFork_Ditch13	S003-190	Yes	Yes	Isanti Co	5030379	491138.8
Hoffman Creek	HoffmanCreek_Hwy20	S003-209	Yes	No	Isanti Co	5030318.3	494396.2
Island Lake Inlet	IslandLakeInlet	S003-221	Yes	No	Linwood	5023411.8	492301.7
Linwood Lake Inlet	LinwoodLakeInlet	S003-216	Yes	No	Linwood	5021291.1	491056.6
Linwood Lake Outlet	LinwoodLakeOutlet	S003-218	Yes	No	Linwood	5022940.2	492196.1
Ditch 2	Mickelson_TypoCreekDr	S003-223	Yes	Yes	Linwood	5026027.5	492032.3
South Branch Sunrise River	SouthBranchSunriseRiver_HornsbySt	S005-640	No	Yes	Linwood	5019935.9	498034.8
South Martin Lake Inlet	SouthMartinLakeInlet	S003-212	Yes	Yes	Linwood	5024758.1	493061.8
Straight Fork of Ditch 13	StraightFork_Ditch13	S003-213	Yes	Yes	Isanti Co	5030456.2	490752.7
W. Branch Sunrise River	SunriseRiver_Hwy77	S001-424	Yes	Yes	Linwood	5026410	498530.2
Martin Lake Outlet	SunriseRiver_MartinLakeOutlet	S003-222	Yes	No	Linwood	5025453.3	493791.5
Typo Creek	TypoCreek_FawnLakeDr	S003-217	Yes	No	Linwood	5028048.6	492632.7
Martin Lake Inlet	TypoCreek_MartinLake	S003-219	Yes	No	Linwood	5026518.3	492632.1
Typo Creek	TypoCreek_TypoCreekDr	S003-188	Yes	Yes	Linwood	5026542.2	491816
Typo Creek	TypoCreek_TypoCreekDrN	S003-225	Yes	No	Linwood	5027370.9	492146.1
Typo Creek Tributary Ditch	TypoCreekTributary_FawnLakeDr	S004-170	Yes	No	Linwood	5028098.6	492089.3
Typo Lake South East Inlet	TypoLakeSouthEastInlet	S003-224	Yes	No	Linwood	5028065.5	492959.4

4.10 Stormwater System

Natural streams and ditches serve as storm water conveyances for most of the SRWMO, however some areas are served by municipal storm sewer conveyances. These areas are primarily in the shoreland districts of Coon and Martin Lakes. Other rural residential neighborhoods throughout the SRWMO do have some stormwater conveyance or treatment features.

Detailed maps of the municipal stormwater conveyance systems are available from the communities. The maps are periodically updated. Columbus, East Bethel and Ham Lake have maps of collection pipes, ponds, 100-year flood elevations for ponds, sizing and elevations of all control structures. Linwood Township is creating a similar inventory.

4.11 100-YEAR FLOOD BOUNDARY

The National Flood Insurance Program has mapped the Sunrise River Watershed's flood boundaries as part of the Flood Insurance Studies completed in 1979 and 1980. These studies were based on the conditions and data available at that time. While still in use, the maps have known shortcomings.

As part of the Flood Insurance Study, detailed water surface profiles for the West Branch of the Sunrise River were computed through the use of the Corps of Engineers HEC-2 step-backwater computer program. Flood boundaries for the rest of the watershed were determined in the Flood Insurance Study by approximate methods using engineering judgment, together with field inspection, aerial photographs, and United States Geological Survey (USGS) topographic maps. Map 19 depicts the floodway and fringe areas that would be inundated as a result of a 100-year flood.

Flood Insurance Study maps are useful tools but have considerable limitations. In this relatively flat watershed, the Flood Insurance Rate Maps, generated from the USGS topographic maps with 10 foot contour intervals, are not very precise. Moreover, some flood areas counterintuitively cross contours indicating higher elevations (i.e. flood boundaries cut across hills). It is not uncommon to find non-floodplain areas mapped as flood hazard areas and flood prone areas that are not included on the map. Furthermore, base flood elevations are not available in many areas; many proposers of land use change are required to calculate or survey these elevations on their own.

Map 19 is for general reference. The Minnesota Department of Natural Resources maintains copies of the Flood Insurance Studies (FIS) for the State of Minnesota. Any determination of whether a property is eligible for the National Flood Insurance Program or located within a floodplain should be accomplished using the FIS for that community.

Three flood insurance studies are available that cover the entire area of the Sunrise River Watershed. They are available for review at each member community's municipal office or at the Anoka Conservation District, and are listed as follows:

1. Anoka County FIS, July 1979, Community ID 270005 (includes Columbus and Linwood Townships).
2. City of East Bethel FIS, November 1979 Community ID 270012.
3. City of Ham Lake FIS, January 1980, Community ID 270674.

Flooding along SRWMO watercourses is uncommon. No flooding problems were identified during preparation of this Watershed Management Plan. Most of the flood-prone lands are undeveloped. In order to keep damages from future floods at a minimum, development in flood-prone areas will be discouraged by the SRWMO.

4.12 WATERSHED MODELS

A Soil and Water Assessment Tool (SWAT) model has been developed by the St. Croix Watershed Research Station. The model includes the SRWMO area. It includes land cover, precipitation, soils and other considerations to model watershed pollutant generation and hydrology. While a valuable tool, the model is best used by the staff at the St. Croix Watershed Research Station or others with SWAT expertise. The model has been used by the SRWMO when doing regional One Watershed, One Plan preparation with other water managers in the region.

4.13 LAKES

There are 19 lakes all or partially located within the Sunrise River Watershed (

Table 3, Map 16). Most could be described as small lakes or large open water wetlands. Eight have actively managed fisheries. Four are major recreational lakes (Coon, Linwood, Martin, and Typo). Three do not meet state water quality standards (Table 4). The recreational lakes are an important resource to the community and management priority.

Four SRWMO lakes fall under the 1837 Treaty establishing tribal fishing and hunting rights (Fawn, Island, Martin, and Typo). This treaty allows the designated tribal bands to harvest fish from lakes within the treaty territory. The MN DNR approves tribal harvesting proposals annually. Currently, no tribal harvesting is occurring on these lakes.

Water quality and levels in the major recreational lakes have been monitored regularly. Water quality has been monitored every 1-3 years at each lake. Lake levels have been monitored every year on these same lakes, with readings taken weekly.

Data is stored in publically accessible locations. All water quality data has been submitted to the MN Pollution Control Agency's (MPCA) EQuIS database, available on the MPCA website through their electronic data access tool. The Anoka Conservation District also maintains a database of this water quality data. Lake level data is on the MN DNR LakeFinder website.

In this plan, we provide a short summary of the characteristics of each lake. This includes a water quality trend analysis where available. More detailed data is readily accessible through the sources mentioned above.

4.13.1 Lake Classifications

The MN DNR has developed a lake classification system so that appropriate development standards could be applied to lakes. Classifications for SRWMO lakes are found in

Table 3. This lake classification system includes the following classes:

Natural Environment Lakes (NE) usually have less than 150 total acres, less than 60 acres per mile of shoreline, and less than three dwellings per mile of shoreline. They may have some winterkill of fish; may have shallow, swampy shoreline; and are less than 15 feet deep.

Recreational Development Lakes (RD) usually have between 60 and 225 acres of water per mile of shoreline, between 3 and 25 dwellings per mile of shoreline, and are more than 15 feet deep.

General Development Lake (GD) usually have more than 225 acres of water per mile of shoreline and 25 dwellings per mile of shoreline, and are more than 15 feet deep.

Table 3. Lake classifications and ordinary high water (OHW) elevations.

Lake	ID #	Size (acres)	Ordinary High Water Level	MN DNR Shoreland Lake Class
Anderson	2-63P	84	NA	NE
Boot	2-28P	130	NA	NE
Coon	2-42P	1498	904.75	GD
Devil	2-58P	103	NA	NE
Fawn	2-35W	57	902.2	NE
Goose	2-62P	257	NA	NE
Higgins	2-2P	103	NA	NE
Island	2-22P	66.7	895.4	NE
Linwood	2-26P	559	900	RD
Little Coon	2-32P	107	NA	NE
Martin	2-34P	234	892.7	GD
Mud	2-37W	31	898.7	NOTSL
Pet	2-36W	19	901.0	NOTSL
Rice	2-43P	255	NA	NE
Ryan	2-40W	30	NA	NOTSL
South Coon	2-48W	48	NA	NE
Tamarack	2-21P	120	NA	NE
Typo	30-9P	273	894.5	RD
Unnamed	2-23W	10	NA	NOTSL

GD = General Development, RD = Recreational Development, NE = Natural Environment, NOTSL = Not regulated by shoreland rules.

Table 4. Impaired lakes in the SRWMO.

Lake	Assessment Unit #	Affected Use	Pollutant/Stressor
Coon	02-0042-00	Aquatic Consumption	Mercury Fish Consumption Advisory
Linwood	02-0026-00	Aquatic Recreation	Excess Nutrients
Martin	02-0034-00	Aquatic Recreation	Excess Nutrients
Typo	30-0009-00	Aquatic Recreation	Excess Nutrients

4.13.2 Parameters and Indices for Evaluating Lake Water Quality

The following are the main parameters used to evaluate lake water quality.

Total Phosphorus – Phosphorus is an essential nutrient. Elevated phosphorus levels result in increased algae populations, which reduce water clarity, deplete dissolved oxygen levels from algae decay, and degrade aesthetics for recreation. Sources of

phosphorus include runoff from agricultural land, runoff from lakeshore and upland properties carrying fertilizer and untreated human waste from failing septic systems, pet wastes, stormwater runoff, and in-lake sources that re-suspend phosphorus stored in the lake bed (example - rough fish).

Chlorophyll-a – This parameter represents the concentration of algae in the water column. Chlorophyll-a is an organic portion of all green plants that absorb the light needed for photosynthesis. Higher concentrations of algae result in reduced water clarity and reduced recreational suitability.

Secchi Transparency – The Secchi disk is an instrument that measures the transparency or clarity of the lake. Transparency is directly related to the amount of algae and suspended solids in the water column. Shallow measurements indicate high algae and/or suspended solids concentrations.

The MN Pollution Control Agency sets water quality standards. Lakes exceeding these standards are deemed impaired. Eutrophication standards for lakes in the SRWMO are in Table 5.

Table 5. Minnesota lake water quality standards.

Waterbody type	Waterbody Specifications	Total phosphorus (µg/L)	Chlorophyll-a (µg/L)	Secchi transparency (m)
Class 2B deeper lakes	Typically >15 ft deep, <80% littoral, >10 acres.	≤40	≤14	>1.4 (4.6 ft)
Class 2B shallow lakes	Typically <15 ft deep, >80% littoral, >10 acres.	≤60	≤20	>1.0 (3.3 ft)

4.13.3 Overview of Lake Conditions

Condition of SRWMO lakes varies. Monitored lakes and the most recent water quality conditions are provided in Table 6.

Table 6. Water quality summary for monitored SRWMO lakes. Data shown are for the most recent year. Trends are based on a MANOVA with response variables of TP, chlorophyll-a and Secchi transparency.

Lake	Letter Grade	Total phosphorus summer average (µg/L)	Chlorophyll-a summer average (µg/L)	Secchi transparency summer average (ft)	Year of most recent data	# years of monitored	Trend
Coon – East Bay	A	19.4	6.7	8.0	2018	22	Improving
Coon – West Bay	A	21.8	6.9	7.3	2018	13 (5 with TP and chlorophyll)	Insufficient data. No evidence of decline.
Boot	C	35.0	11.5	6.5	2018	1	Insufficient data
Linwood	C	34.4	20.2	4.2	2018	18	Stable
Typo	F	160	61.5	1.0	2018	18	Improving
Martin	C	53.1	27.6	3.0	2018	18	Improving
Fawn	A	17.1	4.0	13.7	2018	14	Stable
Island	C	33.9	10.6	4.6	2011	9	NA

4.13.4 Lake Descriptions

Summaries of lakes are found below. Additional information is available through the MN DNR's LakeFinder website (http://www.dnr.state.mn.us/lakefind/index.html). The larger recreational lakes are described first, followed by the smaller waterbodies in alphabetical order.

COON LAKE *Cities of E. Bethel, Ham Lake & Columbus, Lake ID # 02-0042*

General Information

Coon Lake is the county's largest lake. It has a surface area of 1498 acres and a maximum depth of 27 feet (9 m). The majority of the lake (80%) is shallower than 15 feet. Public access is available at two locations with boat ramps including one park with a swimming beach. The lake is used extensively by recreational boaters and anglers. Most of the lake is surrounded by private residences. The watershed of 6,616 acres is mostly rural residential.

Coon Lake has a long history of water level control issues, both due to high and low water. Beginning in 1934 (dust bowl era) there were low water concerns. In 1948, the MN DNR constructed a dam at the outlet of Coon Lake. This dam consists of a semi-circular weir, with a crest elevation of 903.28 feet to 903.46 feet. Water discharges over the weir and into 30" RCP arch culverts. In 1996 the ditch upstream and downstream of the weir was cleaned. Low water level complaints followed. In 1999 the State Legislature directed the MN DNR to conduct a feasibility study of raising lake water levels (available at http://files.dnr.state.mn.us/waters/surfacewater_section/tech/coonlkfeasrep25.pdf). As a result of that process, in 2001 a steel v-notch weir was added at the top the existing concrete weir. The bottom of the v-notch is at the same elevation as the original weir.

Two recent issues for Coon Lake are the exotic, invasive plant Eurasian Watermilfoil (EWM) and the idea of adding municipal sanitary sewer and water services around the lake. EWM was confirmed in the lake in 2003 and has expanded rapidly. In 2008 a Coon Lake Improvement District was formed, with EWM management as a core of its function.

Around 2010 cities considered expanding sanitary sewer and water service to around the lake. One reason for adding this service is that there are suspected to be failing septic systems around the lake, especially in the Coon Lake Beach and Interlachen neighborhoods. Ultimately, the idea to expand municipal sewer and water was not supported and dropped.

While Coon Lake is not listed as "impaired" by the MN Pollution Control Agency, it has been close to their criteria of 40 µg/L phosphorus in the past. In 2006 summer average total phosphorus was 42 µg/L and in 2008 was 37 µg/L. Improved water quality in more recent years may be due to water quality improvement projects, aquatic invasive species, other factors or a combination.

Aquatic Invasive Species Present

Curly-leaf pondweed

Eurasian watermilfoil (confirmed in 2003)
Both species are managed by the Coon Lake Improvement District.

Fisheries

The most recent DNR fish survey occurred in June 2015. Walleye and Northern Pike are the two primary management species. Walleye yearlings are currently stocked annually at a rate of 0.5lbs fish per littoral acre (549lbs of fish) in collaboration with a lake group. A 17-inch minimum length limit on Walleye was implemented in 2009 to improve walleye size structure. An aeration system is present on the lake to prevent winter kills.

Organized Stakeholder Groups

Coon Lake Improvement Association
Coon Lake Improvement District (formed in 2008)

Studies Completed

- **Coon Lake Stormwater Retrofit Analysis**. 2014. By the Anoka Conservation District.
  This study identifies water quality improvement projects within the direct drainage area to Coon Lake. 30 projects are ranked by cost effectiveness at pollutant reduction.
- **Coon Lake Vegetation Management Plan**. 2010 and amended in 2016. MN DNR and Coon Lake Improvement District.
  This document informs aquatic invasive species management.
- **Vegetation Surveys** by the point-intercept method. Multiple years. Coon Lake Improvement District.
  These exercises mapped the extent of aquatic invasive species to inform herbicide applications.

Recent SRWMO Projects

2015 Three lakeshore restorations, one curb-cut rain garden
2016 One curb cut rain garden

Management Notes

- Protecting good water quality should be a priority.
- Failing septic systems in the shoreland area is a concern, particularly in the Interlachen and Coon Lake Beach neighborhoods with more dense, older housing.
- Aquatic invasive species management is led by the lake improvement district.
- Some projects identified in the 2014 stormwater retrofit study are candidates for future installation. This includes lakeshore buffers, which are recommended.

FAWN LAKE Linwood Township, Lake ID # 02-0035

General Information

Fawn Lake is classified as a natural environment lake by the MN DNR, but is listed here with larger recreational lakes because it is surrounded by homes and there is a significant amount of water quality and other data available.

Fawn Lake has a surface area of 57 acres and a maximum depth of 30 feet (10 m). There is no public access to this lake and no public boat landing. A neighborhood

association has established a small park and swimming beach for the homeowners, and a private boat access. Most of the lake is surrounded by private residences, with the densest housing on the southern and western shores. The watershed for this lake is quite small, consisting mostly of the area within less than ¼ mile of the basin.

Groundwater probably feeds this lake to a large extent. The lake has no significant incoming or outflowing streams. The groundwater contributions to this lake and its small watershed probably contribute to its exceptionally good water clarity.

Aquatic Invasive Species Present
Curly-leaf pondweed

Fisheries
The most recent DNR fish survey occurred in July 1998. It found Fawn Lake was dominated by bluegill. Northern pike were abundant with some larger individuals. Largemouth bass appeared moderately abundant.

Organized Stakeholder Groups
Paradise Point Property Owners Association

Studies Completed
None

Recent SRWMO Projects
None

Management Notes
- Protect good water quality.
- Shoreland management, including minimizing vegetative disturbance and encouraging shoreline buffers, is particularly important to lake health due to the small watershed.
- Anecdotally, curly-leaf pond weed does not appear to be expanding.

ISLAND LAKE Linwood Township, Lake ID #02-0022

General Information

Located between Linwood and Martin Lake, Island Lake has a lake area of 66.7 acres, maximum depth of 22 feet. The lake receives water from Linwood Lake through a 64" culvert. Island Lake then discharges through a creek to Martin Lake. County parklands boarder much of the lake. A small public swimming beach is provided on the east shore. A dirt boat launch is on the south shore, but it can only accommodate small boats and canoes. There are no homes on Island Lakeshore.

Aquatic Invasive Species Present
None known, but searches have not been conducted.

Fisheries
The most recent DNR fish survey occurred in July 2000. The lake has a mix of fish species. Bluegill and crappie were present in average numbers for this type of lake. Northern pike, walleye, largemouth bass and bullhead were low in numbers. Bowfin, carp and white sucker had average numbers.

In 2014 a metal grate style carp barrier was added to the culvert on Martin Lake Drive where water from Island Lake comes into Martin Lake. The purpose of that barrier is to prevent carp from moving between the lakes for spawning or overwintering. The 1.5" spacing between grates allows only small fish to pass.

Organized Stakeholder Groups
None

Studies Completed
None

Recent SRWMO Projects
None

Management Notes
- Protect acceptable water quality.
- Undeveloped shoreline, mostly county parkland, and limited access for boats helps insulate this lake from negative effects.

LINWOOD LAKE Linwood Township, Lake ID # 02-0026

General Information

Linwood Lake has a surface area of 559 acres and maximum depth of 42 feet (12.8 m). Public access is available on the north side of the lake at Martin-Island-Linwood Regional Park, and includes a boat landing and fishing areas. The lake's shoreline is about 1/3 developed and 2/3 undeveloped. Most of the undeveloped shoreline is on the eastern shore and is part of a regional park. The lake's watershed is primarily vacant with scattered residential.

Linwood Lake is on the Minnesota Pollution Control Agency's 303(d) list of impaired waters for excess nutrients. There have been discussions that this designation should be reconsidered because (a) the lake only exceeds the 40 µg/L water quality standard in some years and (b) the lake probably meets the MPCA's definition of a "shallow lake" and does not exceed water quality standards for shallow lakes. Despite this, the impairment designation has stuck. There is general agreement amongst natural resources professionals and lake residents that water quality improvement is warranted.

Linwood Lake receives inlet flow from Boot Lake and outlets to Island Lake. A weir controls the outlet from Linwood Lake. The weir, which was built in 1924, is in disrepair. Some residents have expressed concern that the weir elevation has been modified to the detriment of lake levels, but an MN DNR review has not found evidence that this is the case.

Fisheries
The most recent DNR fish survey occurred in July 2015. The lake is primarily managed for walleye, with bluegill as a secondary management species. The lake is stocked with walleye fingerlings on even years. Walleyes found during the 2015 survey were below the 1st quartile (<25th percentile) for similar lakes and northern

pike were between the 1st and second quartiles (25-50th percentile). Bluegill abundance was between the 1st and 2nd quartiles. Crappie were similar.

Organized Stakeholder Groups
Linwood Lake Improvement Association

Studies Completed

- **Carp Management Feasibility Study**. 2018-2019. Sunrise River WMO, Anoka Conservation District and Carp Solutions, LLC.
  This study is estimating carp abundance, recruitment history, seasonal spawning and overwintering movements. Management recommendations are included.
- **Boot Lake Water Quality Monitoring**. 2018. Sunrise River WMO, Anoka Conservation District.
  For the first time Boot Lake, which drains to Linwood Lake, was monitored to determine if projects in the Boot Lake subwatershed are warranted to improve Linwood Lake. Boot Lake had water quality similar to Linwood Lake, but with less algae and more macrophytes. An additional two years of monitoring are planned by the SRWMO. Results are in annual reports on the SRWMO website.
- **Sunrise River Watershed Total Maximum Daily Load.** 2014. MN Pollution Control Agency and Chisago Soil and Water Conservation District. This study estimated pollutant reductions needed at Linwood Lake.
- **Sunrise River Watershed Restoration and Protection Strategies (WRAPS).** 2014. MN Pollution Control Agency and Chisago Soil and Water Conservation District. This study provides management recommendations by subwatershed. Specific Linwood Lake management recommendations are in Table 7.

Recent SRWMO Projects

2012 Demonstration lakeshore restoration at lake association annual picnic.

2018 Targeted outreach to lakeshore residents that records suggested failing or to fail septics. Technical and financial assistance was offered, but the response was practically zero.

Management Notes

- Phosphorus reductions needed are 341 lbs (23%) according to the TMDL study.
- Correcting failing shoreland septic systems is a priority. In 2017-18 review of permits, maintenance notes, system ages and landowner feedback found 21 shoreland septic systems that have "red flags" indicating they are at risk for failure. Owner responsiveness to offers for technical and financial help was low. Yet the lake association and township lobbied for the outreach due to perceived problems. Financial assistance to fix problem septics is inadequate.
- Undeveloped shoreline, mostly county parkland, helps insulate this lake from negative effects and should be a priority to maintain.
- A significant concern for lake residents is aquatic vegetation. The lake has both curly-leaf pondweed and Eurasian watermilfoil. Coontail has become matted to the surface in some large areas in recent years. Aside from this, a lush community of native plants exists. Management at this lake will likely be a

struggle between desires for clearer water and fewer plants, which conflict with each other.

- The WRAPS recommended management activities as shown in Table 7.

Table 7. Potential Linwood Lake restoration projects from the Sunrise River WRAPS.

LINWOOD LAKE IMPLEMENTATION ACTIVITES CURRENT TP = 44 µg/L		Treated Area [ac]	Treated Area [% Watershed]	Estimated TP Load Reduction [lb P/yr]	Estimated TP Load Reduction [% Total Needed]	Potential Granting Organization	Project Partners	Estimated 30-year Costs
IN-LAKE	Load Reduction Needed:			29				
	Load Reduction Achieved:			29	8.5%			
Trophic state alteration	Including, but not limited to, carp management and/or curly-leaf pondweed management.			29	8.5%			
WATERSHED	Load Reduction Needed:			312				
	Load Reduction Achieved:			313	91.7%			
Biofilters	Buffer strips (9,415 feet total)	22	0.3%	2	0.6%	NRCS; CWF	NRCS; LID; SWCD; LA; LO	$-$$
Lawn management	Maintaining turfgrass and preventing transport of leaves and clippings on 25% of all parcels	118	1.7%	4	1.2%	Existing programs	City; SWCD; LA	$$
Septic system upgrades	Convert all failing to conforming	N/A	N/A	114	33.6%	CWF	County; Cities; LO	$
	Convert all ITPHSS to conforming (completed)	N/A	N/A	0	0.0%		County, LO	
Bioretention & Infiltration	Infiltration basins and large bioretention facilities (equivalent to one individual rain gardens on 36% of all parcels, or 336)	N/A	N/A	168	49.2%	CWF; LID	SWCD; LID; LA; LO	$$-$$$
Sedimentation	Sedimentation ponds (13)	130	1.9%	14	4.0%	NRCS; CWF; City; LID	NRCS; SWCD; LID; City; LO	$$
Agricultural BMPs	Collection, storage, and treatment of manure (assumes 75% reduction of load)	N/A	N/A	2	0.5%	NRCS; Ag BMP; CWF	NRCS; SWCD; LO	$-$$
	10% of cropland with conservation tillage	102	1.5%	9	2.6%	NRCS; Ag BMP	NRCS; SWCD; LO	Variable
TOTAL	Load Reduction Needed:			341				
	Load Reduction Achieved:			342	100%			

Symbol key

Ag BMP MDA Agricultural BMP Loan Program
CWF Clean Water Fund
CWP Clean Water Partnerships/ 319 Grants
LA Lake Associations
LID Lake Improvement District
LO Landowners
NRCS Natural Resources Conservation Service
SWCD Soil and Water Conservation District

$ < $500/lb TP removed/yr
$$ = $500-$1500/lb TP removed/yr
$$$ > $1500 lb TP removed/yr

The greatest load reductions recommended are from septic system upgrades and bioretention projects. It estimates these two project types, if fully implemented would achieve >80% of needed phosphorus reductions. Septic system upgrades also had the lowest cost of all management options recommended. Lakeshore buffer strips, while popular, would achieve only 0.6% of the needed reductions.

- The lake association has become more active beginning around 2016. They have been successful at fundraising for aquatic invasive species treatments and water quality improvement projects. They should be including in lake management decisions.

MARTIN LAKE Linwood Township, Lake ID # 02-0034

General Information

Martin Lake is located in the northeast portion of Anoka County. Martin Lake has a surface area of 223 acres and maximum depth of 20 ft (6.1 m). Public access, including a concrete boat launch, is available on the southern end of the lake. The lake is used moderately by recreational boaters and fishers, and would likely be used more if water quality were improved. Martin Lake is almost entirely surrounded by private residences. The 5402 acre watershed is 18% developed, with the remainder

being vacant, agricultural, or wetlands. Martin is on the Minnesota Pollution Control Agency's (MPCA) list of impaired waters for excess nutrients.

Martin Lake is located between Typo and Island Lakes. Martin Lake receives water from Typo Lake through Typo Creek at its north inlet. Water entering the south inlet comes from Island, Linwood, and Boot Lakes (downstream to upstream order of the chain of lakes). Martin Lake discharges from the east side of the lake to the West Branch of the Sunrise River via a concrete dam constructed in 1938 and rehabilitated to include a carp barrier in 2016.

Fisheries

The most recent DNR fish survey occurred in June 2015. Walleye fry are stocked annually. The most recent found the lowest walleye catches since 1984 and no walleyes smaller than 13 inches. Northern pike were between the 25th and 50th percentile for this lake type. Bluegill abundance was between the 50th and 75th percentile. Crappies and yellow perch were also sampled in notable quantities. An aeration system was installed in 1993 to prevent winterkills.

Organized Stakeholder Groups

Martin Lakers Association

Studies Completed

- **Ditch 20 Wetland Restoration Feasibility Study to Benefit Downstream Water Quality**. 2018. Anoka Conservation District.
- **Martin and Typo Lake Total Maximum Daily Load (TMDL)**. 2012. MN Pollution Control Agency and Anoka Conservation District.
  This study estimated pollutant reductions needed at Martin Lake.
- **Martin Lake Stormwater Retrofit Assessment.** 2011. Anoka Conservation District.
  This study identifies water quality improvement projects within the direct drainage area to Coon Lake. 15 projects are ranked by cost effectiveness at pollutant reduction.
- **Sunrise River Watershed Restoration and Protection Strategies (WRAPS).** 2014. MN Pollution Control Agency and Chisago Soil and Water Conservation District.
  This study provides management recommendations by subwatershed.

Recent SRWMO Projects

2018 Carp removals
2016 Carp barriers at north inlet and outlet
2014 Carp barrier at south inlet
2011 Three curb-cut rain gardens

Management Notes

- TMDL recommended management actions include Ditch 20 management, rough fish control, lakeshore septic system upgrades, stormwater retrofits and others.
- Carp barriers and removals have yielded a trend of improving water quality. Bringing carp levels to management goals of 100 kg/ha, and maintaining that level, is a priority.
- Aquatic vegetation and related habitat is currently low but should increase with water quality improvements. Tracking this change is a priority. The MN DNR

has been asked to provide this vegetative management, but is unable due to staffing limitations.
- Additional stormwater retrofit projects identified in a 2011 study are candidates for installation.
- Martin Lakers Association maintains a small water quality fund that can help match grants for lake management that they support.
- Projects at Typo Lake upstream are needed to achieve Martin Lake goals.
- Linwood Township owns and operates the carp barriers. The SRWMO and Anoka Conservation District provide assistance.

TYPO LAKE Linwood Township and Isanti County, Lake ID # 03-0009

General Characteristics

Typo Lake is located in the northeast portion of Anoka County and the southeast portion of Isanti County. It has a surface area of 290 acres and maximum depth of 6 feet (1.82 m), though most of the lake is about 3 feet deep. The lake has a mucky, loose, and unconsolidated bottom in some areas, while other areas have a sandy bottom. Public access is at the south end of the lake along Fawn Lake Drive. The lake is used very little for fishing or recreation because of the shallow depth and extremely poor water quality. The lake's shoreline is mostly undeveloped, with only 21 homes within 300 feet of the lakeshore. The lake's watershed of 11,520 acres is 3% residential, 33% agricultural, 28% wetlands, with the remainder being forested or grassland. Typo Lake is on the Minnesota Pollution Control Agency's (MPCA) list of impaired waters for excess nutrients.

Typo Lake outlets to Typo Creek through a double culvert under Fawn Lake Drive. Some resident complaints of low water levels have been received, and at times there have been attempts to illegally block the outlet to create higher water levels.

Fisheries

The most recent DNR fish survey occurred in June 2016. Walleye are the primary management species in the lake and are stocked as fry in odd years. That survey noted walleye, black and white crappie and northern pike were near or above the levels found in that lake during previous surveys. Black crappie and bluegill were the most abundant species in this recent survey.

Organized Stakeholder Groups

None

Studies Completed

- **Ditch 20 Wetland Restoration Feasibility Study to Benefit Downstream Water Quality**. 2018. Anoka Conservation District.
- **Carp Management Feasibility Study.** 2017-2019. Anoka Conservation District, SRWMO and Carp Solutions LLC.
  This study estimated carp abundance, recruitment history, seasonal spawning and overwintering movements and is producing management recommendations. Carp removals are included.

- **Martin and Typo Lake Total Maximum Daily Load (TMDL)**. 2012. MN Pollution Control Agency and Anoka Conservation District.
  This study estimated pollutant reductions needed at Martin Lake.
- **Sunrise River Watershed Restoration and Protection Strategies (WRAPS).** 2014. MN Pollution Control Agency and Chisago Soil and Water Conservation District.
  This study provides management recommendations by subwatershed. Specific Linwood Lake management recommendations are in Table 21.

Recent SRWMO Projects

2018 Carp removals
2017 Carp removals
2016 Carp barrier at outlet

Management Notes

- Carp barriers and removals have yielded a trend of improving water quality. Bringing carp levels to management goals of 100 kg/ha, and maintaining that level, is a priority.
- Study of Ditch 20, which discharges into Typo Lake, in 2018 identified wetland restoration projects to benefit lake water quality. Landowners were not ready to implement projects. Water monitoring during study found much lower phosphorus levels in the ditch than previously observed, causing managers to re-think whether Ditch 20 projects were the most cost-effective way to improve Typo Lake.
- Aquatic vegetation and related habitat is currently low but should increase with water quality improvements. Tracking this change is a priority. The MN DNR has been asked to provide this vegetative management, but is unable due to staffing limitations.
- Martin Lakers Association invites Typo Lake residents to join.
- Projects at Typo Lake are needed to achieve goals in downstream waters.
- Linwood Township owns and operates the carp barrier. The SRWMO and Anoka Conservation District provide assistance.

BOOT LAKE Linwood Township, Lake ID #02-0028

General Information

Boot Lake is located south of Linwood Lake in the Boot Lake Scientific and Natural Area (SNA). Boot Lake is a flow through lake, which receives water from Rice Lake through a 48" culvert then discharges to Linwood Lake. Because it is part of the SNA, no boating or fishing activity is allowed. There is no public access on the lake. Boot Lake is 134 acres with a maximum depth of 19 feet. The MN DNR classified Boot Lake as a natural environment lake. Large numbers of migrating waterfowl use the lake.

Fisheries

The most recent DNR fish survey occurred in 1959. At that time fish present included brown bullhead (most numerous), perch, and panfish. Small number of other species including carp, northern pike, and bowfin were observed.

In 2018 a carp management feasibility study did box netting at Boot Lake to screen for young carp. The purpose was to determine if Boot Lake was a spawning area for carp from Linwood Lake. Those nets caught no carp. The only species they captured in Boot Lake were pumpkinseed at a rate of 2.7 individuals per trap net.

Anoka Conservation District monitored Boot Lake water quality in 2018 with a special permit. During monitoring the staff noted that while most of the lake is less than 5 feet deep, there is a small area of nearly 20 feet deep. Staff observed one dead carp.

Organized Stakeholder Groups
None

Studies Completed

- **Carp Management Feasibility Study**. 2018-2019. Sunrise River WMO, Anoka Conservation District and Carp Solutions, LLC.
  This study focused on Linwood Lake, but did touch Boot Lake. It included box netting in Boot Lake to screen for juvenile carp (none found) and radio tracking at Boot Lake. 20 carp were radio tagged in Linwood Lake and radio tracking will occur at Boot Lake to determine if carp move from Linwood to Boot Lake.
- **Boot Lake Water Quality Monitoring**. 2018. Sunrise River WMO, Anoka Conservation District.
  For the first time Boot Lake, was monitored to determine if projects in the Boot Lake subwatershed are warranted to improve Linwood Lake. Boot Lake had water quality similar to Linwood Lake, but with less algae and more macrophytes. An additional two years of monitoring are planned by the SRWMO. Results are in annual reports on the SRWMO website.

Recent SRWMO Projects
None

Management Notes

- Lake water quality monitoring is planned for two additional years after 2018 in order to gain a baseline understanding of lake conditions. Management implications for Linwood Lake are a focus.

ANDERSON LAKE City of East Bethel, Lake ID #02-0063

Anderson Lake is 84 acres and discharges to Coon Lake through County Ditch 56. The MN DNR has classified Anderson Lake as a natural environment lake. No other information regarding water quality conditions or fish populations is available.

DEVIL LAKE City of East Bethel, Lake ID #02-0058

Devil Lake is 115 acres with a maximum depth of four feet. Devil Lake discharges to Goose Lake through a County Ditch 56. The MN DNR has classified Devil Lake as a natural environment lake. No other information regarding water quality conditions or fish populations is available.

GOOSE LAKE City of East Bethel, Lake ID#02-0062

Goose Lake is located east of Coon Lake and has a surface area of 257 acres, though much of the basin would more correctly be described as wetland. The lake is affected by

County Ditch No. 56, which runs through the lake and outlets to Coon Lake. The MN DNR has classified Goose Lake as a natural environment lake. No other information regarding water quality conditions or fish populations is available.

HIGGINS LAKE City of Columbus, Lake ID #02-0002

Higgins Lake is located on the southeast boundary of the Sunrise River WMO. The lake has a surface area of 103 acres but only 62 acres are located within the watershed. The MN DNR has classified Higgins Lake as a natural environment lake. No other information is available regarding water quality conditions or fish population.

LITTLE COON LAKE City of Columbus, Lake ID #02-0032

Little Coon Lake is located within the Wildlife Sanctuary of Carlos Avery WMA. There is no public access. Part of County Ditch 12 flows through the lake, eventually outletting to the South Branch of the Sunrise River. Little Coon Lake is 107 acres with a maximum depth of four feet. It is an important brooding and staging area for waterfowl. In the 1980's Little Coon Lake supported an extensive crop of wild rice. By 2015 the entire surface was covered in white water lily and very little wild rice was present. An Outdoor Heritage Fund grant was received through the Anoka Sandplain Partnership. The NW half of the lake was treated with an aquatic herbicide in 2016. Wild rice was seeded in 2016, 2017, and 2018. Post treatment monitoring has shown a large decrease in water lily and a moderate increase in wild rice in the treated portion. Monitoring of the project continues. The lake is subject to freeze-out and does not support game fish. The MN DNR has classified Little Coon Lake as a natural environment lake.

MUD LAKE Linwood Township, Lake ID#02-0037

Mud Lake is located south of Pet and Fawn Lakes. Mud Lake is landlocked except for a wetland on the southeast end of the lake, which is drained by a ditch to the West Branch of the Sunrise River. Wild rice is known to occur in this waterbody. The MN DNR has classified Mud Lake as a natural environment lake. No other information or water quality data is currently available for Mud Lake.

PET LAKE Linwood Township, Lake ID#02-0036

Pet Lake is located between Fawn and Mud Lakes. Pet Lake is 19 acres and shallow (< 5 feet). There is no public access to this lake, which is more than 50% surrounded by homes. Despite the fact that Pet Lake is no more than 200 feet from Fawn Lake, the two lakes appear to have somewhat independent hydrology. Fawn Lake's elevation is often over a foot higher than Pet Lake's. Pet Lake does not have a managed fishery. The MN DNR has classified Pet Lake as a natural environment lake. No other information or water quality data is currently available for Pet Lake.

RICE LAKE Linwood Township, Lake ID #02-0043

Rice Lake is located west of Boot Lake. The lake is affected by County Ditch No. 16 which inlets to the lake from the northwest. Rice Lake then outlets through a ditch/creek to Boot Lake. Rice Lake has a surface area of 262 acres. The MN DNR has classified Rice Lake as a natural environment lake. No other information or water quality data are currently available for Rice Lake.

RYAN LAKE Linwood Township, Lake ID#02-0040

Ryan Lake is a small lake (30 acres, maximum depth < 5 ft.) located northeast of Martin Lake. Ryan Lake is landlocked except for a wetland on the south end of the lake that may provide an outlet to the west branch of the Sunrise River. The MN DNR has classified Ryan Lake as a natural environment lake. No other information or water quality data are available for Ryan Lake.

SKUNK LAKE Linwood Township, Lake ID#02-2500

South Coon Lake is a small lake (44 acres) located northwest of Linwood Lake. It has no apparent surface water inlet or outlet. There is no public access. The MN DNR classified South Coon as a natural environment lake. No other information is available regarding water quality conditions or fish population.

SOUTH COON City of Ham Lake, Lake ID#02-0048

South Coon Lake is a small lake (48 acres) located immediately south of Coon Lake. This lake has also been known as Little Coon Lake. It is connected to Coon Lake by a culvert that is large enough to accommodate moderately-sized boats. There are a moderate number of lakeshore homes. There is no public access except by water from Coon Lake. During the summer this waterbody is mostly covered by floating leaf vegetation. The MN DNR classified South Coon as a natural environment lake. No other information is available regarding water quality conditions or fish population.

TAMARACK LAKE Linwood Township, Lake ID #02-0021

Tamarack Lake is located south of Martin Lake. It discharges to the West Branch of the Sunrise River marshland. The lake is landlocked, other than this discharge. The lake is 86 acres in size with a maximum depth of 3 feet. The MN DNR has classified Tamarack Lake as a natural environment lake. No other information regarding water quality or fish population is currently available.

UNNAMED Linwood Township, ID #02-0023

Located on the northwest side of Linwood Lake, north of Viking Blvd, this small (10 acres) lake is managed by the MN DNR as a northern pike spawning area. It is within the Linwood Lake Aquatic Management Area. There is a small stream channel connecting it to Linwood Lake.

4.14 GROUNDWATER

Groundwater quality is important to residents of the watershed because there are almost no municipally provided sanitary sewer or water supply systems. Additionally, many lakes, wetland and streams are connected to groundwater. Regionally, the SRWMO area provides some recharge of deeper aquifers that serve the greater Twin Cities Metro. Protecting both the surficial and deeper aquifers is important to the SRWMO. At the same time, the SRWMO relies upon State and regional agencies to largely manage this complex resource that extends beyond SRWMO boundaries.

Specific concerns about groundwater heard during SRWMO Watershed Management Plan preparation included:

- Pollution of ground and surface waters by non-compliant septic systems and need to fix them.
- Impact of construction dewatering on nearby private wells.
- Residents are responsible for testing their own private well water, but few do.
- Maintaining water levels in deep and shallow aquifers that are subject to appropriations (permitted pumping). These water levels can, among other things, affect water levels in lakes, streams and wetlands.
- Groundwater monitoring is sparse. Currently there are two MN DNR observation wells in the SRWMO. Both are deep (>200 ft).

An Anoka County Geologic Atlas is complete. Utilizing this data to inform management decisions is important.

5 ASSESSMENT OF REGULATORY FRAMEWORK

5.1 REGULATORY STANDARDS ASSESSMENT

To complement the issue identification process for this Plan, an assessment of regulatory standards, ordinances and rules was conducted. The process included:

1. Compiling a comparison of standards, rules and ordinances for the member communities.
2. Technical Advisory Committee (TAC) review of a summary of member community local controls and SRWMO standards for stormwater and wetlands. The TAC considered updates that might be appropriate.
3. SRWMO Board review of TAC input.

We acknowledge that the scope of our review excluded many federal and state regulations. This process focused on stormwater and wetland protection rules that may be locally warranted but may not be fully addressed in existing rules.

Conclusions of our regulatory assessment were:

- Regulatory simplification is desired. Three of the four SRWMO communities have >1 watershed organization, each with different standards.
- Member community rules and requirements, particularly for stormwater, are difficult to find in their entirety. They are found in ordinances, local surface water management plans, engineering guidance documents or others. These sources sometimes cross-reference each other. Consolidation and clean-up is needed by the cities/township.
- Member community staff are sometimes unaware of their community's rules or how they are implemented. This appears due to the volume of rules they handle about for many topics and because the rules may be in multiple documents.
- Review of SRWMO standards under the 3rd Generation SRWMO Watershed Management Plan resulted in the following conclusions:
    - Wetland standards:
        - The SRWMO standards have been too complex and as a result often not being implemented as intended.
        - SRWMO wetland standards should be updated to:
            - Exclude the currently-required wetland functions and values assessments and wetland classifying. These appear to be an impediment to widespread implementation. Most requirements are the same regardless of wetland classification.
            - Replace current detailed requirements for vegetated buffers within a permanent easement with simpler requirements requiring an undisturbed buffer during construction. This approach ensures all new development start with a buffer, but does not require more detailed long term tracking of these buffers in perpetuity that simply wasn't being done.
            - Delete or replace limitations on excavation in wetlands that are based upon wetland class. Excavations of 0.5 acres or more are so large they are scrutinized through municipal mining permit processes.
    - Stormwater standards:

- SRWMO stormwater standards should be updated to:
  - Reference the newest and most widely accepted precipitation data: Atlas 14.
  - Increase stormwater retention (usually accomplished by infiltration) requirement from 0.5 inches from new impervious surfaces to 1 inch. One inch is required of MS4 communities already, is scientifically supported (see State Minimum Impact Development Standards background information) and is usually reasonable to achieve in the local sandy soils.

Updated SRWMO standards are provided as appendices to this plan. In addition to updated wetland and stormwater standards, the SRWMO has added septic system standards and a provision allowing SRWMO review of subdivision sketch plans. These updated standards are consistent with the findings of the regulatory review above.

6 PRIORITIZATION OF ISSUES

6.1 ISSUE IDENTIFICATION PROCESS

An assessment of issues, and prioritization of those issues, was completed through several steps including:

1. A formal 60-day comment period before planning began. Comments were invited from 6 State agencies, Metropolitan Council, four member communities, eight neighboring watershed organizations and soil and water conservation districts, Anoka County, Anoka Conservation District, and four lake groups. Comments were accepted through March 30, 2018.
2. A public officials tour which was attended by 17 local officials and had 10 presenters at four sites. The event was May 24, 2018.
3. A public input kickoff meeting attended by 22 individuals. The event was May 24, 2018.
4. An online survey done as part of the Lower St. Croix One Watershed One Plan was done in summer 2018. It yielded 27 responses from individuals living within the SRWMO.
5. Review of the current SRWMO Plan by the SRWMO Board, during which progress and remaining issues were examined.
6. Review of member community local water management plans and their priorities, as well as priorities in neighboring watershed organizations.
7. Issue selection and prioritization by the SRWMO Board.

Additional documentation of these processes is provided in Appendix A.

Below we have described issues identified by others and the final issues prioritization by the SRWMO Board.

6.2 ISSUES ASSESSMENT BY OTHER AGENCIES AND STAKEHOLDERS

As described above, a number of forums were used to collect input and issues from agencies and stakeholders. Summaries of each are provided in the appendices to this Plan. On the following pages is a summary of all the issues identified, which forums mentioned that priority, and relatively how high that issue ranked as a priority.

Table 8 Issues identified by others and their relative ranking, along with the SRWMO's prioritization

Issue (bulleted points below each issue are notes from stakeholder input, not necessarily the SRWMO board)	**Stakeholders at planning kickoff meeting and public officials tour**	**Up-front planning comments from agencies**	**SRWMO Board review of its current watershed plan**	**Neighboring watershed organizations**	**SRWMO city local water plans**	**SRWMO Board Priority**
Lake and stream water quality o WRAPS, impaired waters studies o Water quality improvement projects needed o Protect near-impairment waters like Coon Lake o Wetland restoration o Lakeshore management	H	H	H	H	H	H
Water monitoring	H	H	L			H
Funding	H		H			H
Communications with member communities						H
Outreach and education o Public o City staff and elected officials o Water quality issues and behavioral changes o Awareness and support of the WMO	H	M	H	H	M	H
Aquatic invasive species o Prevent new infestations o Control existing infestations o Native plants viewed as beneficial	H	H	H	H		M
Septic systems	H	H	H	L		M
Development	M	H		M	M	M

Issue (bulleted points below each issue are notes from stakeholder input, not necessarily the SRWMO board)	**Stakeholders at planning kickoff meeting and public officials tour**	**Up-front planning comments from agencies**	**SRWMO Board review of its current watershed plan**	**Neighboring watershed organizations**	**SRWMO city local water plans**	**SRWMO Board Priority**
o Natural communities and land use conversion o Stormwater management during development o Shoreline development affects fisheries and water quality o Engage public landowners like DNR and county parks						
Multi-partner coordination o Partnerships with lake groups o Partnerships with up- and downstream entities o Regional planning, 1W1P		M	H	M		M
Stormwater management o Regulated stormwater cities – E Bethel and Ham Lk. o Stormwater treatment and minimize runoff	M			L	M	M
Groundwater	M			L	L	M
Administrative efficiencies o Regulatory consistency and simplification						M
Chlorides	H					M
Ditching/drainage	L	M			L	L

Issue (bulleted points below each issue are notes from stakeholder input, not necessarily the SRWMO board)	**Stakeholders at planning kickoff meeting and public officials tour**	**Up-front planning comments from agencies**	**SRWMO Board review of its current watershed plan**	**Neighboring watershed organizations**	**SRWMO city local water plans**	**SRWMO Board Priority**
o Ditch maintenance may negatively impact water quality o Drainage for properties						
Climate change o Managing for changing precipitation				M		L
Water quantity, flooding, floodplain mgmt				M	M	L
Fisheries	M					
Wildlife habitat				L		L

6.3 ISSUES PRIORITIZATION BY THE SRWMO BOARD

Table 8 includes the SRWMO prioritization of issues in comparison to stakeholder input. The SRWMO's prioritization is provided below including additional descriptions.

Some criteria the SRWMO considered when selecting priorities included:

- Whether the issue was supported by stakeholder and agency comments.
- Whether the SRWMO can solve the issue.
- Whether others are already addressing the issue.

Please note that even the "low priority" items are priorities. These are items that are less urgent, being addressed by others, or for other reasons will receive less energy from the SRWMO. It should not be interpreted to mean that these topics deserve no work.

6.3.1 HIGH PRIORITY ISSUES FOR THE SRWMO

Lake and stream water quality

- Good quality, near-impairment lakes and streams need to be maintained or improved to avoid more costly future restoration. Recreational waters are a top protection priority. Coon Lake is a noted priority for protection efforts.
- Impaired waters do not fully support swimming, fishing and other uses. Recreational waters are a top restoration priority. Linwood, Martin and Typo Lakes are noted priorities for restoration.
- Non-recreational waters that drain to recreational waters affect the water quality in those recreational waters, and are a management priority.
- Some tributary ditches or wetlands, such as Ditch 20, contribute high nutrient loading to downstream lakes.
- Landlocked non-recreational waters, particularly those without public access are lower priority, but the SRWMO still recognizes some responsibility.
- Implement recommendations in the Sunrise Watershed Restoration and Protection Strategies (WRAPS), impaired waters studies, and One Watershed One Plan.
- Lakeshore stewardship should be improved for water quality and habitat.

Water monitoring

- Monitoring is needed at recreational waterbodies to provide trend analysis and inform management.
- No monitoring is currently done at non-recreational waters or those without public access. Basic monitoring of transparency or other parameters by volunteers would help guide future management.

Funding

- The amount of water resources and problems in the watershed are not commensurate with local funding. >55% of the watershed is wetland,

lake, or stream, approximately 38% is public lands, and development is relatively light so tax base is small. Yet water resources are abundant and some are in poor condition. The cost to bring all SRWMO impaired waters into compliance with State water quality standards exceeds $10.5 million (assumes $1,000/lb phosphorus reduced and 10,355 lbs of phosphorus reductions needed per completed TMDL studies; excludes mercury fish tissue impairments).
- Grants are available to funds projects, but require planning, local matching funds and active pursuit to secure the funds.
- Communicating work outcomes to funding sources, including the general public, is needed to continue or increase funding.

Communications with member communities

- The SRWMO is not well known by some local elected officials. Communication of SRWMO roles, collaboration opportunities and accomplishments need to be better communicated.
- SRWMO Board members are critical liaisons between the city and SRWMO.
- Ham Lake is the one SRWMO community that does not have a city council representative assigned to the SRWMO.
- Member community staff are a valuable resource for SRWMO projects and collaboration, and interaction should be more frequent.
- Community projects are only eligible for State Watershed Based Funding if they are included in the SRWMO Plan.
- Cost savings and efficiencies can be achieved when city and SRWMO projects are "piggybacked" on each other.

Outreach and education

- Behavioral change is needed to address some water quality issues, such as lakeshore stewardship benefitting water quality and habitat.
- Resident awareness of the SRWMO and projects is needed to garner community support, including funding support from member communities.

6.3.2 MEDIUM PRIORITY ISSUES FOR THE SRWMO

Aquatic invasive species

- Prevent new infestations.
- Control of existing infestation is important and led by lake groups with minimal SRWMO involvement.
- Native plants should viewed as beneficial.

Septic systems

- Failing septic systems have been identified as a contributor to impaired waterbodies and may also impact non-impaired waters that the SRWMO has prioritized protecting.

- Member communities have septic system regulatory programs however educational outreach and financial assistance to fix septic systems is low.

Development

- Stormwater runoff and discharge can increase during development, affecting downstream water quality and quantity.
- New development or land use conversion could fragment or remove high quality natural communities, the loss of which has incremental negative impacts on water quality and community character.
- Shoreline development affects fisheries and water quality.
- Public landowners like DNR and county parks are potential partners for managing lands for water quality and habitat.

Multi-partner coordination

- The SRWMO jurisdictional area does not follow watershed boundaries to the north and east. Watershed-level management requires working with upstream and downstream neighbors.
- The Lower St. Croix One Watershed One Plan includes the SRWMO and provides a new opportunity for regional management through partnerships.
- Many projects require multiple partners for full funding or community support. Partnerships with lake groups.

Stormwater management

- Stormwater runoff contributes pollutants to priority waterbodies. Waterbody degradation would be expected if stormwater is not minimized and treated.
- Untreated storm water discharges to some lakes are known. Stormwater retrofitting projects have been identified and ranked around Martin Lake and Coon Lake.
- Predominantly sandy soils provide good opportunities for stormwater infiltration practices.

Groundwater

- Due to soils and geology, drinking water in the SRMWO is vulnerable to contamination. Protecting clean drinking water is a priority for the SRWMO.
- Water pumping, including construction dewatering, can interfere with nearby wells.
- Groundwater management, particularly of quantities, requires regional management often beyond the scope of a single WMO, but the WMO can be a collaborator.

Administrative efficiencies

- The SRWMO has no staff except part time contracted help, so simple and efficient administration is desired. Member community staff can

sometimes offer expert assistance with finance and other topics, but their available time is limited. Board members have limited time to administer the WMO.
- The SRWMO needs to ensure minimum standards it sets are being implemented by communities without creating administrative burdens.
- Regulatory consistency across the SRWMO is desired.

Chlorides
- Chlorides in lakes and streams from road deicing, water softeners and other sources is a regional concern for aquatic life. As a regional issue, the SRWMO will provide support in addressing it, but not be a lead.
- SRWMO waterbodies have not been monitored for chloride to assess the problem fully.

6.3.3 LOWER PRIORITY ISSUES FOR THE SRWMO

Ditching/drainage
- Some ditches in the watershed have been infrequently cleaned, which can generate complaints. The SRWMO's role in this topic is limited because the county is the public ditch authority and ditch maintenance programs require expenditures well beyond the SRMWO's capacity.
- The SRMWO is concerned that cleaning of ditches that have been long-neglected could unintentionally degrade water quality.

Climate change
- Stormwater facilities should be designed to accommodate storm frequencies and intensities in a changed climate.

Water quantity
- Flooding problems are not known in the SRWMO, but should be examined if they develop.

Fisheries
- Game fisheries are important and managed by the MN DNR.
- At Coon Lake the walleye program agreement between the lake group and DNR expires in 2018.

Wildlife habitat
- Wildlife habitat is important and managed by multiple authorities including the MN DNR and private landowners.

7 GOALS, POLICIES AND ACTIONS

The SRWMO has prioritized issues, then set goals for each priority issue and developed policies and an action plan to reach those goals. The goals, policies, and actions are categorized by the priority topics (determined in previous chapter). The order of topics addressed on the following pages is:

High Priority Issues

1. Lake and stream water quality
2. Water monitoring
3. Funding
4. Communications with member communities
5. Outreach and education

Medium Priority Issues

6. Aquatic invasive species (AIS)
7. Septic systems
8. Development
9. Multi-partner coordination
10. Stormwater management
11. Groundwater
12. Administrative efficiencies
13. Chlorides

Lower Priority Issues

14. Ditching/Drainage
15. Climate change
16. Water quantity
17. Fisheries
18. Wildlife habitat

The following definitions are useful to consider when reading the following section:

Vision - A broad-level statement of preferred future conditions or accomplishments.

Goals - A desired, preferably measurable, end toward which water management efforts are directed. Goals might be achieved through policies, actions, and/or standards.

Policies - A governing principle that guides decision-making to achieve goals in the plan.

Actions - A program, procedure, or task that achieves goals in the plan.

Standards - Extensions of policies that provide specific, detailed guidance regarding water management practices. Standards are included are appendices in this plan.

HIGH PRIORITY ISSUES

7.1 LAKE AND STREAM WATER QUALITY HIGH PRIORITY

Vision:

- Water quality will be maintained, despite increasing pressures, in waterbodies that are not impaired.
- Linwood and Martin Lakes will be removed from the State impaired waters list within 20 years.
- Severely impaired Typo Lake will improve to a condition that allows vegetative growth in the lake and allows downstream Martin Lake to achieve water quality standards.
- The social norm and expectation for lakeshore landowners to have a vegetated buffer and aquatic plants.
- Lake associations will lead or co-lead water quality programs funded by the SRWMO.
- Lakes' overall ecological health, including fisheries and wildlife benefits, will be improved through a variety of mechanisms including rough fish control, AIS prevention and management, lakeshore stewardship by private landowners, and others.
- The SRWMO will begin implementing projects with agricultural producers, which were not previously a target audience due to their relatively small number and operational size.
- Chlorides in streams and lakes will not reach high levels as they have in other areas closer to the metro.

Goals:

G1. **Complete eight conservation plans** by 2022 for landowners. Highest priority properties are those with livestock/horses and sites within impaired waters' watershed. Work to be done by the BWSR/NRCS funded Watershed Conservation Planner housed at Chisago SWCD.

G2. **Implement projects in five conservation plans** produced by the BWSR/NRCS funded Watershed Conservation Planner housed at Chisago SWCD. Funding sources may include federal agriculture programs or other existing programs.

G3. **Create a new BMP incentives program to benefit lake water quality** that increases participation by increasing available funding and operating the program jointly with lake associations. The SRWMO will provide primary funding while the lake associations will, where willing, provide most promotion & outreach. Where lake associations do not participate the SRWMO will continue to directly offer cost share grants to homeowners.

G4. **20% or less of lakeshore will be mowed turf to the water's edge or retaining walls.** When most recently inventoried in 2004 lakes had 20% (Linwood Lake), 24% (Coon Lake), 27% (Martin Lake), 37% (Fawn Lake), 4% (Typo Lake). **Install at least two lakeshore buffer or stewardship projects per year** to work toward this goal.

G5. **Manage carp in Typo, Martin, Linwood and Coon Lakes to 100 kg per hectare** or other lake-specific threshold above which they are detrimental to lake health. 100 kg/hectare is equivalent to 89 lbs/acre.

G6. **Road deicing salt will be minimized** through training on effective, science-based deicing techniques.

G7. **Work toward 20% phosphorus reduction within the SRWMO** to help meet the multi-agency St. Croix Basin TMDL 20% reduction goal for the entire Sunrise River watershed.

G8. **Achieve, within this plan's life, pollutant reductions needed to get Martin and Linwood Lakes off the impaired waters list and work toward the reductions needed for other waterbodies,** including:

Impaired waterbody	Pollutant	Reductions needed	Management targets
Linwood Lake	Phosphorus	23% 341.3 lbs/yr	Internal sediments, shoreline mgmt., shoreline septic systems, watershed runoff, ag practices, curly leaf pondweed, common carp.
Typo Lake	Phosphorus	81%, 7,041 lbs/yr	Common carp, internal sediments, ditched wetlands.
Martin Lake	Phosphorus	41% 2,973 lbs/yr	Typo Lake outflow, common carp, internal sediments, stormwater direct drainage, shoreland restorations, shoreland septic systems.
West Branch Sunrise River	pH, turbidity	74%	Work in upstream Martin and Typo Lakes.
South Branch Sunrise River	Low oxygen	NA	Unclear. May be natural background or related to wetland management upstream. Wetland restoration.

Martin and Linwood Lakes are the priority due to their recreational use, feasibility, and benefits to multiple waterbodies. Even for these, the goal is ambitious – the 3,314 lbs of phosphorus reduction would cost $3,314,000 at a typical $1000/lb rate. Considering this cost, even with $1M in grants and local funding every 10 years (nearly double the funding secured during 2009-2018), the goals may take over 30 years to achieve.

G9. **Maintain Coon Lake water quality** through projects that offset landscape pressures that might cause eutrophication, resulting in a flat or improving water quality trend.

SRWMO Actions:

Agricultural Practices

A1. **Assist with identification, prioritization and outreach to parcels where conservation plans can be done** by the BWSR/NRCS funded Watershed Conservation Planner housed at Chisago SWCD or which could be enrolled in the MN Ag Water Quality Certification Program.

A2. **Open the SRWMO cost share grant program to funding agricultural practices** or others identified in conservation plans. It currently funds lakeshore restorations and stormwater retrofits.

In-Lake and Near-Lake Management

A3. **Screen carp population levels in Linwood and Coon Lakes** to determine biomass per acre. Electrofishing surveys using standardized techniques are anticipated.

A4. **Complete carp removals to achieve 100 kg/hectare**, or a level recommended in professional assessments of the carp population. This work is needed at Martin and Typo Lakes. Study at Linwood Lake is underway to determine work needed. Study at Coon Lake is proposed.

A5. **Support Linwood Township's maintenance of the Martin and Typo Lake carp barriers** by sending spring and fall reminders of screen installation and removal, based on date and water temperature.

A6. **Fill funding gaps for curly leaf pondweed control** when the treatment will achieve water quality benefits and lake groups or others are major funders. Lake groups may apply through the SRWMO cost share grant program. (See aquatic invasive species control section of this Plan for more info)

A7. **Conduct studies to determine the feasibility of alum treatments** in impaired lakes. Alum chemical addition binds phosphorus. Any study will include an assessment of the social acceptability, costs and benefits. Due to high costs, this study and any subsequent alum treatments are contingent upon grant funding.

A8. **Complete georeferenced photo inventory of lakeshore** at Coon, Linwood, Martin, Typo and Fawn Lakes. This will be uploaded to Google Street View for public access. It will be used to update existing maps of priority parcels for lakeshore restoration, inventory how much shoreline is mowed to the edge or retaining wall, and to support any DNR enforcement actions for lakeshore alterations.

A9. **Start a new BMP incentives program to improve lake water quality** that is operated jointly with lake associations who are willing to promote and administer grants to residents at their lake.

A10. **Maintain the SRWMO cost share grant program for lakeshore** restoration funding directly to homeowners where there is not a cooperating lake association.

Stormwater Practices

A11. **Build projects identified and ranked by cost-effectiveness in completed subwatershed analyses**, and any subsequent additional studies. Studies are completed for Martin and Coon Lake direct drainages.

A12. **Conduct a subwatershed analysis for Linwood Lake** that identifies and ranks by cost effectiveness projects for water quality improvement. It is based upon Watershed Restoration and Protection Strategies (WRAPS) recommendations. This study is dependent upon grant funding.

Wetland Restoration

A13. **Sustain outreach to landowners along Ditch 20** where the SRWMO previously identified wetland restoration projects to benefit water quality. One contact

should be made every two years or whenever new wetland restoration funding opportunities are known.

Other

A14. **Implement outreach and education activities listed elsewhere** in this plan that are largely focused on lake and stream water quality.

A15. **Model pollutant reductions for each SRWMO project and report** the achievements to the St. Croix Basin Partnership Team. This partnership creates an annual report of progress toward TMDL goals.

Member Community Actions:

MC1. **Linwood Township will continue to own and maintain the Martin and Typo Lake carp barriers**, including maintenance cleaning and installing/removing the screens seasonally.

Policies:

P1. The SRWMO will not pay for maintenance treatments of aquatic invasive species unless those treatments will achieve a water quality benefit. Maintenance treatments are treatments expected to recur regularly over many years to maintain AIS density for recreational purposes. Water quality benefits are reductions in water borne nutrients.

P2. The SRWMO may lead or assist with water quality projects upstream of its jurisdiction in Isanti County when Isanti County entities are assisting with funding.

P3. The SRWMO supports the 2015 Minnesota buffer law that requires 50 ft wide buffers of perennial vegetation on public waters and 16.5 ft wide buffers on public ditches.

P4. The SRWMO supports a member community efforts to purchase or implement equipment for precision application of road deicing salts.

P5. The SRWMO discourages the use of driveway culverts that allow water that would otherwise infiltrate quickly in the roadside ditch to reach downstream lakes and streams.

P6. The SRWMO discourages creating outlets within landlocked basins. This action can exacerbate downstream flood events or water quality problems.

P7. The SRWMO discourages maintenance cleaning of long-neglected ditches as this activity will likely result in increases in nutrient and volume discharge to downstream recreational waters. Identification of "needed" ditches for current land use versus "legacy" ditches that are no longer needed is encouraged.

P8. The SRWMO will actively seek enforcement of applicable water quality standards through the appropriate governmental agencies when violations are suspected.

P9. Impairments for mercury impacting fish consumption will not be addressed by the SRWMO. State or national action is needed to correct these problems.

P10. The SRWMO strongly supports use of winter aeration in lakes where carp removals are occurring, or carp have created water quality problems in the past. Aeration results in improved game fish survival, and game fish can control carp recruitment.

P11. The SRWMO supports development of a voluntary conservation easement program to help preserve high quality natural areas, particularly where easements will protect or improve water quality.

P12. The guidance documents listed within this Plan are incorporated into this Plan by reference.

7.2 WATER MONITORING HIGH PRIORITY

Vision:

- Water problems will be identified with sound science and addressed with effective management.

Goals: (in priority order)

G10. Monitor the effectiveness of installed water quality projects (effectiveness monitoring).
G11. Diagnose water quality problems to inform management (diagnostic monitoring).
G12. Detect changes or trends (surveillance monitoring).

SRWMO Actions:

A16. **Implement an annual monitoring program** consistent with Table 9 and the SRWMO actions listed below.
A17. **Determine effectiveness of major water quality improvement projects through pre- and post- project monitoring**. The schedule is dependent upon the project and water body.
A18. **Begin monitoring Island Lake**. It was last monitored in 2003-2011 by Met Council but is important due to its connections to Linwood and Martin Lake, and its recreational use.
A19. **Begin monitoring for chlorides in streams** two of ten years.
A20. **Determine how Boot Lake affects water quality in Linwood Lake**.
A21. **Understand basic conditions in smaller public waters** with limited or no public access through a volunteer Secchi transparency monitoring program. These include Fawn, Pet, Rice, Tamarack, Rice, and Skunk Lakes.
A22. **Collect basic lake conditions of all four recreational lakes with public access every year and more detailed condition every third year.** This will be accomplished with an annual citizen secchi transparency monitoring and every-third-year water sample analysis by professionals or the Metropolitan Council Volunteer Assisted Monitoring Program.
A23. **Analyze water quality trends** each year water quality monitoring is completed for a waterbody. The focus will be on phosphorus, total suspended solids, clarity and chlorides.

Table 9. SRWMO water monitoring actions.

		Lakes									Streams			Reference Wetlands	Precipitation	Other	Reason
Type	**Description**	**Coon W Bay**	**Coon E Bay**	**Linwood**	**Martin**	**Typo**	**Fawn**	**Island**	**Boot**	**Small lakes w/o public access***	**W Branch Sunrise R at Co Rd 77**	**Data Cr at Typo Cr Dr**	**Typo Cr at Typo Cr Dr**				
Effectiveness Monitoring																	
Water quality sampling	Professional monitoring of TP, chl-a & trans (lakes) or TP, pH and TSS (streams) every 1-4 yrs.				X	X							X			X – TBD as projects planned/ installed	To track effectiveness of carp management, stormwater treatment, etc.
Diagnostic Monitoring																	
Water quality sampling	Professional monitoring of TP, chl-a & trans for 3 yrs (2018 done) at **Boot Lake**. TP and TSS at **Data Cr** for one of every 10 yrs.								X			X					To inform Linwood Lake (impaired) management planning. To determine priority of wetland restorations along Data Cr.**
Depth profiles	Professional dissolved oxygen and temp measurements twice at 1 m depth intervals once every 10 yrs.	X	X	X	X												To determine stratification as needed for alum & other treatments.
Surveillance Monitoring																	
Lake levels	Volunteer-recorded water levels in all years.	X	X	X	X	X	X										Outlet management and dispute resolution.
Secchi transparency	Volunteer-recorded transparency in all years.	X	X	X	X	X	IVF	X		IVF							Trend analysis.
Water quality sampling	Professional monitoring of TP, chl-a & trans every 3rd year.	X	X	X	X	X		IVF			X						Trend analysis.
Chloride sampling	Professional monitoring of chloride and conductivity in 2 of 10 yrs for streams. None for lakes planned.										X						Screening for problems. Baseline data collection. Trend analysis.
Wetland Levels	Datalogged water levels at edge of long-term wetland monitoring sites													3 reference wetlands			Ensure accurate regulatory wetland determinations.
Preciptiation	Volunteer-recorded precipitation for MN State Climatology's volunteer network.														3 existing sites + recruit 4 more volunteers		For water quality problem diagnosis, hydrological modeling, flood studies, etc.

TP = total phosphorus; TSS = total suspended solids; chl-a = chlorophyll-a; trans = secchi transparency; CAMP = Metropolitan Council Citizen Assisted Monitoring; IVF – If volunteer found.

* Small lakes without public access include Pet, Rice, South Coon, Skunk, Tamarack (volunteer is Dan Babineau). ** Financial contribution from Isanti Co to be requested.

Policies:

P13. Water condition monitoring will be done for the following prioritized reasons:
   1. Effectiveness monitoring of installed water quality projects
   2. Diagnosis of problems that will inform management
   3. Surveillance and trend analysis

P14. SRWMO will adjust its monitoring schedules to consider monitoring done by the MN Pollution Control Agency for watershed assessments in 2019-2020 and at 10 year intervals thereafter. MPCA monitoring counts toward SRWMO goals and planned actions.

P15. Water quality data shall be submitted annually to the MPCA's EQuIS database to ensure consistency and comparability of data.

P16. The SRWMO will not monitor nor conduct at TMDL study for the South Branch of the Sunrise River which is impaired for low oxygen. The MPCA has indicated they will not monitor this site because low oxygen levels are driven by large upstream wetlands. The SRWMO will seek to have this stream reach removed from the impaired waters list because the cause appears to be natural background.

7.3 FUNDING HIGH PRIORITY

Vision:

- SRWMO continues to secure the grants needed for effective management.
- SRWMO is a predictable and transparent financial partner for member communities.

Goals:

G13. **SRWMO continues to have approximately 50% of its budget grant funded**. It was at 57% during the 3rd Generation Plan period.

G14. **Maintain average annual budgets of local funds from member communities <$50,000 from 2020-2025 and <$60,000 from 2026-2030.** The average budget 2014-2018 was $41,869 and ranged from $32,705 to $48,464. The $10,000 increase between the first and last years of this Plan's term is to account for estimated 4% inflation.

G15. **Minimize budget variations amongst years**. This requires carrying a balance forward from lower expenditure years to pay for future higher expenditure years.

G16. **Always have the 10% match required to secure non-competitive Watershed Based Funding** from the State Clean Water Legacy Fund.

G17. **Never ask member communities for additional funding** above an approved annual budget, except in emergency or extenuating circumstances. The SRWMO should have its own modest reserve fund to cover most unforeseen circumstances.

G18. **Solicit quotes for professional services** every two years.

SRWMO Actions:

A24. **Request the same funding amount from member communities each year,** to the greatest extent practical. Target amounts shall be <$50,000 for 2020-2025 and <$60,000 for 2026-2030. This will avoid occasional high budget years that are difficult for communities levying the tax. It does require budgeting more than will be expended in some years, and carrying those funds forward. The implementation

table in this Plan shows both the annual anticipated expenditures and budget amount.

A25. **Track funds for major SRWMO activity categories.** In this way the SRWMO can clearly differentiate funds being accumulated for upcoming work and undesignated reserve.

A26. **Build and maintain an undesignated reserve** of local funds of at least 15% and not more than 30% of average annual expenditures for unforeseen circumstances.

A27. **Update member community's financial contributions to the SRWMO in 2020 and 2025** with new tax base data. The revised contribution amounts will be used in the 2021 and 2026 budgets, respectively.

A28. **Obtain a financial audit** by the State Auditor or public accountant once every five years as required by MN Statutes 6.756. If the annual revenue of the SRWMO exceeds the threshold amount in MN Statutes 412.591 an audit is required for that year. The 2017 threshold amount was $216,000. Future thresholds are published on the State Auditor's website – see the frequently asked questions section. Any grants deposited to SRWMO accounts count toward this threshold.

Member Community Actions:

MC2. **Provide projects for State Watershed Based Funding consideration** to the SRWMO. This non-competitive grant is available to projects in the WMO plan with water quality benefits that do not supplant existing funding.

Policies:

P17. The SRWMO may request supporting match funds from a lake association to help secure grants for projects benefitting that lake. However, such support is not required except for treatment of curly-leaf pondweed to benefit lake water quality.

P18. To be eligible for State Watershed Based Funding projects should be identified in the SRWMO Watershed Management Plan or clearly linked to Plan priorities. Member communities are encouraged to submit projects for consideration. Selection of funded projects shall be through a collaborative effort led by the SRWMO and including the member communities, lake associations, lake improvement districts and other stakeholders selected by the SRWMO. In the event that this policy differs from State policy, State policy shall prevail.

7.4 Communications with Member Communities High Priority

Vision:

- City councils will be familiar with the SRWMO.
- SRWMO operates in concert with the member communities.
- Lake association leaders and the SRWMO board know each other.

Goals:

G19. **City councils know about SRWMO projects.**

G20. **Annually deliver a written and in person report** to city councils and town board.

G21. **SRWMO board meetings are posted** on each member community's calendar.

SRWMO Actions:

A29. **Send SRWMO meeting agendas and minutes to each member community**.

A30. **The SRWMO will email project milestone accomplishments** to member communities, including city councils. Photos should be included whenever possible.

A31. **The SRWMO's contracted administrator will prepare a brief annual written communication piece** that summarizes SRWMO work, finances, leveraged funds and current events. It will be used as a visual aid during in-person reporting to city councils. Content should emphasize photos, infographics, figures and similar visual summaries.

A32. **Annually SRWMO board members will report in-person** to their city council or town board. Council work sessions are the preferred venue. Preferred timing is during or in advance of budgeting that begins in January or February.

A33. **Provide project tours** to city elected officials and staff when major projects are initiated and/or completed.

Member Community Actions:

MC3. **Provide time annually during a city council or town board work session** to hear a SRWMO update.

MC4. **Annually report to the SRWMO** accomplishments towards work in this Plan. The reports provide assurance to the SRWMO that planned work is getting done and will be used in SRWMO required reporting to the State.

Policies:

P19. SRWMO Board members are expected to be a liaison between their community and the SRWMO. Annual reporting to each city council or town board is expected.

7.5 Outreach and Education — High Priority

Vision:

- Consistent messaging.
- Messaging at a frequency sufficient to have an impact.
- Lakeshore landscaping social norms shift to create an expectation of lake-friendly approaches including buffers and reduced vegetative clearing.

Goals:

G22. **Personal, relevant communications** for the following key messages in order of priority:

Message	Target Audience(s)	Frequency of Outreach
High Priority		
Promote lakeshore restorations and stewardship practices	Lakeshore owners	1-3x per year
SRWMO's existence and programs	Community-wide Lake associations Elected officials	1-2x per year
Financial assistance to fix a failing septic system	Shoreland district homes	1x per year
Medium Priority		
Aquatic plants have value, don't tear them out	Lakeshore owners	1-3x per year
Stop aquatic hitchhikers	Lake users	Continuous on SRWMO website, plus other venues 1x/yr in 5 of 10 yrs

Message	Target Audience(s)	Frequency of Outreach
Lower Priority		
How to maintain your septic system	Homeowners	1x per yr in 2 of 10 yrs
Conserve groundwater	Community-wide	3x per yr in 1 of 10 yrs
Use phosphorus-free fertilizer, it's the law	Community-wide	occasional
Use less deicing salt	Municipal staff*	occasional

The "Frequency of Outreach Per Year" column of this table was developed using the range of frequencies that SRWMO Board members felt was needed to be effective, while considering stakeholder input.

G23. **Diversify outreach methods, using three different methods each year.** Outreach methods shall be prioritized as follows:
Highest priority and frequency: member community and lake association newsletters, SRWMO website, workshops, displays and personal interactions.
Lower priority and frequency: signage in public places (especially for AIS prevention), direct mailings (for neighborhood-specific issues), social media (for current events items).

G24. **Consistent messaging across time and space,** including consistency with neighboring jurisdictions.

G25. **SRWMO becomes a regular contributor to lake association newsletters.**

G26. **Promote every completed project** in the lake associations' newsletters, website, Facebook or similar.

SRWMO Actions:

Written Communications

A34. **Provide an article or other content for newsletters each lake association, 1-3 times per year**. The target lake associations are Martin, Linwood and Coon. Content will focus on lakeshore stewardship, water monitoring results, project results and others. Both infographics and paragraph-style articles may be used.

A35. **Provide a brief article or other content for member communities' newsletters 1-2 times per year.** Because this does not reach a targeted audience, the content may often just include the SRWMO logo, website, and brief statement of purpose. This content is intended to meet State requirements for an annual communication piece.

A36. **Submit press releases to the Forest Lake Times newspaper** to promote completed projects.

A37. **Create, or use already available, lakeshore stewardship and lakeshore restoration guidance materials**. This may be used by the SRWMO and lake associations for promoting cost share grants.

A38. **Create a new display about shoreland stewardship**. The target audience is lakeshore landowners. The display should be designed to be used at community and lake association events.

In-Person Communications

A39. **Host staffed displays at one community event annually** at a minimum. Priority events are lake association events. Broader community events such as Linwood Family Fun Day, East Bethel Booster Day and Ham Lake Snow Bowl are secondary.

A40. **Offer a workshop through Community Ed, Anoka County Extension or the county-wide Outreach Coordinator** on a trial basis by 2022. A local septic system maintenance workshop by Anoka County Extension is a first choice. Lakeshore stewardship is a second choice. The SRWMO will promote workshops to its target audiences.

A41. **Seek Eagle Scouts, Master Gardeners, Master Naturalists** or similar to promote and lead SRWMO projects such as lakeshore restorations in public places, displays and staffing at community events, project maintenance, etc. The SRWMO will annually identify projects which might be suitable and reach out to these groups for assistance as appropriate.

Digital Communications

A42. **Maintain the SRWMO website**. The focus of the website will be to convey information about the SRWMO and its efforts, financial and technical assistance and State-required reporting.

A43. **Prepare postings for the Anoka County Know The Flow website**. The website contains information about water management projects county-wide including watershed organization meeting dates, workshops, grants, and water stewardship.

A44. **Provide links amongst the websites** of the SRWMO, member communities and lake associations.

Other

A45. **Support the county-wide outreach coordinator position** housed at the Anoka Conservation District. The program aims to provide consistent messaging across time and space, and offer efficiency by serving multiple organizations at once. The program is fully funded through mid-2020 and the SRWMO will participate. The SRWMO will consider financial contributions to the program beginning in 2020 if needed to keep the program going. Any financial contribution will be reviewed annually based on program performance toward SRWMO goals.

A46. **Begin a youth coloring contest** to increase awareness of water quality topics. Preferably the program can be coordinated through the county-wide outreach coordinator. If not, the SRWMO will implement the program with no expected cost. Prize donations will be requested, free online coloring templates will be used, and the SRWMO board will manage the program.

Member Community Actions:

MC5. **Provide a link on the community's website to the SRWMO website**.

MC6. **Provide space in community newsletters for ¼ page minimum SRWMO articles**.

Policies:

P20. SRWMO outreach communications should always include the SRWMO logo and website address, or "sponsored by the SRWMO" as appropriate.

P21. The SRWMO supports the county-wide Outreach Coordinator position housed at the Anoka Conservation District. In 2018-2020 support will be by collaboration/participation only, not financial contribution. Thereafter the program may evolve such that SRWMO financial support is required and provided at a levels the SRWMO Board deems acceptable.

P22. The SRWMO supports digital media platforms that serve multiple watershed organizations, such as the Anoka County "Know the Flow" website or shared social media accounts.

MEDIUM PRIORITY ISSUES

7.6 AQUATIC INVASIVE SPECIES (AIS) MEDIUM PRIORITY

Vision:

- Few new aquatic invasive species infestations.
- New AIS infestations are identified early.
- Whenever there is a significant chance of eliminating a new, small infestation, a quick emergency response occurs.
- Compliance with AIS prevention laws nears 100%.

Goals:

G27. Identify new infestations early.

G28. Contain or eradicate any small scale, newly discovered infestations.

SRWMO Actions:

A47. **Education lakeshore homeowners** as described in the Outreach and Education section of this Plan. Target messages are Stop Aquatic Hitchhikers and differentiating between problem plants and healthy native plants.

A48. **Annually help recruit AIS early detection surveys with volunteers, if requested.** Efforts will be modeled after, or directly participate in, the Starry Trek events organized by the Minnesota Aquatic Invasive Species Research Center and University of Minnesota Extension. Collaboration with the Anoka County Aquatic Invasive Species Prevention Program is strongly preferred. During events volunteers are trained, sent out to search for AIS, and bring back suspect plants to professional hosts for identification confirmation.

A49. **Fill funding gaps for curly leaf pondweed control by lake groups** when the treatment will achieve water quality benefits and lake groups or others are major funders.

A50. **Manage common carp populations** as described in the Lake and Stream Water Quality section of this Plan.

Policies:

P23. The SRWMO will not fund AIS control treatments or related plant surveys except in emergency situations such as attempted elimination of a new infestation, or when the control will achieve water quality benefits.

P24. The SRWMO will not fund boat inspectors, as this work is done by the DNR and Anoka County.

P25. The SRWMO may help lake groups fund AIS treatment planning such as lake management plans.
P26. The SRWMO supports the Anoka County Aquatic Invasive Species Prevention Program hosted by Anoka County Parks.

7.7 SEPTIC SYSTEMS MEDIUM PRIORITY

Vision:

- Financial assistance programs for septic system fixes continue to be offered by the Anoka Conservation District and Anoka County.
- Member community programs to track maintenance will identify failing systems, and lead to corrective action.

Goals:

G29. Locate and fix non-functioning septic systems.
G30. Annually promote to financial assistance available through Anoka County and Anoka Conservation District for fixing non-compliant septic systems. The SRWMO's target audience is shoreland residents. Support any efforts to increase available funding, which is far less than need.
G31. Secure grant funds to (a) develop, and set up implementation of, point of sale septic system inspection requirements. These requirements currently do not exist in Ham Lake or Linwood; (b) inspect shoreland septic systems older than 10 years or without a certificate of compliance in the last 10 years; and (c) assist East Bethel with developing an automated SSTS maintenance tracking and reminder system.

SRWMO Actions:

A51. **In five of 10 years promote financial assistance** available from Anoka County and Anoka Conservation District for fixing non-compliant septic systems to shoreland residents.
A52. **See actions in the Outreach and Education** section of this plan.

Member Community Actions:

MC7. Implement SRWMO septic system standards (see Appendix B).
MC8. Adopt and enforce a septic system ordinance consistent MN Rules 7080-7082 and Statues 115.55-56. This includes measures to ensure :

- all septic systems are pumped every three years unless an inspection finds pumping is not necessary at that time,
- failing systems are identified through the pumping and/or inspections process that is required every three years, and these systems are corrected,
- in cases where owners are not providing proper maintenance or correcting non-compliant systems, the member communities perform the necessary actions and assess the costs to the owner,
- non-compliant systems are repaired or replaced swiftly, especially in shoreland areas and in cases where the system is an imminent threat to public health.
- septic system options available to landowners include non-traditional or performance systems, particularly in difficult situations such as properties without space for a replacement drainfield.

Policies:

P27. The SRWMO supports the three septic system repair loan programs offered by Anoka County.
P28. The SRWMO supports the Anoka Conservation District's low-income septic system fix up loans, which are funded by the MN Pollution Control Agency. More funding from the State for this program is needed.
P29. The design, installation and inspection of individual sewage treatment systems (ISTS) shall be in conformance with MN Rules Chapter 7080.

7.8 DEVELOPMENT MEDIUM PRIORITY

Vision:

- New development will not degrade the condition of water resources nor existing high quality natural communities and habitat corridors.
- Redevelopment, including street reconstruction, will improve stormwater treatment to meet or exceed present day requirements.

Goals:

G32. **Identify any undesirable natural resource impacts of proposed developments** and recommended alternatives early in the planning process.

SRWMO Actions:

A53. **Review sketch plans for development creating 3 lots or more.** Areas of emphasis for SRWMO review will be water quality, stormwater treatment, keeping post-development runoff rates and volumes the same as pre-development and high quality natural communities. Comments are generally needed within 30 days of receipt. The SRWMO will authorize a contracted staff person with expertise in natural and water resources to perform and submit these reviews. The SRWMO Board will be copied on all related correspondence but may not deliberate together on these comments unless a regularly scheduled SRWMO meeting is within the allowable comment period.
A54. **Review the benefit of SRWMO development reviews no less than every 5 years.** Consider changes or discontinuing the activity.

Member Community Actions:

MC9. **Add the SRWMO onto distribution lists for development sketch plan reviews**. Pay for SRWMO development reviews in an amount not to exceed $500 per project (communities may invoice the project proposer to recoup this cost). Consider, but not be bound by, SRWMO comments on development proposals.
MC10. **Serve as the Local Governmental Units (LGU) administering MN Wetland Conservation Act** in SRWMO.

Policies:

P30. The SRWMO does not have permitting or approval authorities for development projects, but may provide comments for consideration by member communities.
P31. When reviewing development sketch plans, the SRWMO will consider:
    - Stormwater
        - SRWMO stormwater standards must be followed.
        - Keeping water on the landscape is strongly preferred.

- Stormwater treatment practices in order of preference are: development designs that minimize stormwater generation, infiltration and others.
- Excluding or elevating driveway culverts to encouraging infiltration in the road right of way swale is preferred.
- Isolated basins should not be given an outlet that may result in wetland drainage or increased volume discharge.
- Redevelopment projects should decrease suspended solids and total phosphorus export to downstream waters.
- New development should not increase suspended solids and total phosphorus.
- Treatment of stormwater before discharge to wetlands.
- Legally binding and enforceable maintenance plans clarifying responsibilities should be completed for all stormwater treatment practices.

- Habitat and community character
  - Planned Unit Developments (PUD's), Minimum Impact Development Standards (MIDS) and conservation development designs are encouraged for parcels containing or adjacent to waterbodies, high quality wetlands, and natural communities.
- Groundwater
  - Landscaping and/or stormwater reuse may be ways to reduce the impacts of future irrigation on aquifers.
- Wetlands
  - SRWMO wetland standards must be followed.
  - Wetland filling, draining or excavation may require permits from the local governmental unit administering the MN Wetland Conservation Act, or others.
  - The SRWMO encourages WCA LGUs to require replacement wetlands to be of similar or higher ecological quality than the wetland they are replacing based on MN RAM or professional judgements, and within the same watershed.

7.9 Multi-Partner Coordination Medium Priority

Vision:

- Most SRWMO projects are collaborative with stakeholders from within and areas draining to its jurisdiction.

Goals:

G33. **Every SRWMO water quality improvement project has support from affected stakeholders** including member communities, lake groups, adjacent water management entities, or others.

G34. **Attend at least two stakeholder/partner events per year**. The most common example is lake association meetings.

G35. **Partner with Anoka County Parks** on shoreline or stormwater demonstration projects.

SRWMO Actions:

A55. **Participate in Lower St. Croix One Watershed, One Plan (1W1P)** during 2018-2020. A SRWMO board member serves on the 1W1P Policy Committee.

A56. **Consider adopting the Lower St. Croix One Watershed, One Plan (1W1P)** in 2020. The process for adoption will follow a process to be determined by the State.

A57. **Attend two stakeholder/partner events per year.**

A58. **Seek to implement** shoreline or stormwater management demonstration projects or educational outreach with Anoka County Parks, particularly at Coon, Linwood and Island Lakes.

Policies:

P32. The SRWMO gives higher priority to projects with financial support from affected stakeholders.

P33. The SRWMO gives higher priority to shoreline or stormwater management demonstration projects with Anoka County Parks, particularly at Coon, Linwood and Island Lakes.

7.10 Stormwater Management — Medium Priority

Vision:

- Water quality in lakes and streams will be maintained (or improved, for impaired waters) despite land use pressures.
- Older neighborhoods with insufficient stormwater treatment will have retrofit projects installed to increase stormwater treatment.

Goals:

G36. **City stormwater regulations are consistent with SRWMO Stormwater Standards**.

G37. **City Stormwater regulations are all found in a single place**. Currently some may be distributed amongst local water plans, storm water pollution prevention plans, ordinances making it difficult for permitting staff and permittees to properly implement.

SRWMO Actions:

A59. **Review development sketch plans** as described in the Development section of this Plan.

A60. **Install stormwater treatment practices** as described in the Lake and Stream Water Quality section of this plan.

A61. **Review member community ordinances and standards** for consistency with this plan.

Member Community Actions:

MC11. **Fulfill stormwater maintenance duties.** Among these duties the SRWMO's priorities are: (1) inspection and maintenance of existing stormwater treatment no less than every five years, (2) map stormwater conveyance and treatment systems, and (3) ensure new development and redevelopment has the required stormwater treatment (4) sweep streets with curb and gutter once annually in all areas, and twice annually in priority areas. Priority areas shall be areas that drain directly to water bodies and/or natural wetlands without pretreatment of storm water runoff.

These duties are met by compliance with State MS4 permit requirements for communities permitted by that program.

MC12. **Update city ordinances, if necessary**, for consistency with the SRWMO Stormwater Standards (Appendix B).

MC13. **Condense all municipal stormwater standards or rules** that are currently in local water plans, storm water pollution prevention plans, ordinances or other documents and place them all (or links to them) in a single location.

Policies:

P34. Preferred stormwater treatment approaches in the SRWMO are: (1) site designs which reduce stormwater generation, (2) infiltration, due to sandy soils, except within sensitive water supply areas or areas that may generate pollutants concerning for groundwater contamination, and (3) other techniques.

P35. Discharge of waters from dewatering projects should be through some form of treatment that removes solids and other pollutants, and in a manner that maximizes groundwater recharge without causing damage to public or private properties.

7.11 GROUNDWATER MEDIUM PRIORITY

Vision:

- Sustainable amounts of groundwater free of contamination in drinking water aquifers.
- Maintain surficial aquifers in a way that maintains baseflow in streams and water levels in lakes.

Goals:

G38. **Residents are advised to test private wells regularly** for contaminants.

G39. **All irrigation systems will be "smart" by 2040**, providing water when needed based upon soil moisture and forecasted rain.

G40. **Five residential or one larger "smart" irrigation systems** will be installed during the 10-years of this Plan, partially using SRWMO incentive grants. Larger irrigation systems include sporting fields, homeowner associations, schools, or other campuses.

G41. **Prevent improper household hazardous waste disposal.**

SRWMO Actions:

A62. **Provide Anoka County Well Water Wise private well testing program** on the SRWMO website.

A63. **Promote "smart" irrigation controllers** and make this practice eligible for SRWMO cost share grants to landowners. "Smart" controllers consider soil moisture and forecasted rain when scheduling irrigation. Promotion will be on the schedule specified in the Outreach and Education section of this Plan. Grants are also offered by the Anoka Conservation District or others.

A64. **Partner with regional entities**, on a case by case basis, on projects for groundwater quality or quantity.

A65. **Require infiltration of 1"** of runoff from impervious surfaces in SRWMO stormwater standards for new development.

Member Community Actions:

MC14. **Provide household hazardous waste disposal information on community websites**, ultimately directing residents to the Anoka County Household Hazardous Waste Facility.

MC15. **Provide Anoka County Well Water Wise private well testing program** on community websites.

MC16. **Adopt and enforce an ordinance** at least as protective as the stormwater standards in this plan, which emphasizes infiltration including requiring infiltration of 1" of runoff from impervious surfaces.

7.12 Administrative Efficiencies — Medium Priority

Vision:

- The SRWMO continues to operate successful programs and projects without staff, an office or other overhead.

Goals:

G42. **SRWMO continues to spend <20% of its local funds on administration** on average across years. Administration, for this purpose, includes the following items for which the SRWMO has some control over costs: recording secretary, reporting, and administrative assistance.

G43. **SRWMO will have a key contact person** that can be reached by the public or agencies.

G44. **SRWMO meetings are efficient and occur no more than eight times per year**.

G45. **Board members include representatives from key stakeholder groups** including lake residents and local elected officials.

G46. **Correct the SRWMO boundary.** Presently eight parcels that are part of the SRWMO are in an area that is discontinuous with the rest of the SRWMO. Corrections are needed with the Rice Creek Watershed District (RCWD) boundary. Starting in 2019 the RCWD is systematically examining hydrologic and political boundaries with the SRWMO. A petition to the state for boundary amendment is anticipated.

SRWMO Actions:

A66. **Contract for administrative and secretarial services.**

A67. **Utilize technical and citizen advisory committees** on an occasional, issue-specific basis.

Member Community Actions:

MC17. **Preferentially consider applicants for SRWMO Board appointments who are members of stakeholder groups** such as lake associations or local elected officials. Final appointment decisions are always at the discretion of the appointing body.

MC18. **East Bethel's Finance Director will continue to provide SRWMO assistance** including preparing checks, keeping a financial ledger, invoicing and third-party oversight. The city does not plan to charge a fee for this service if the amount of work remains the same as in the past.

MC19. **Support a joint powers agreement update** by the member communities to clarify section 3.6 that is supposed to address budget dispute resolution and how any community's failure to update its local water plan will be addressed.

MC20. **Operate permitting programs**. Each member community will adopt, implement, and enforce ordinances that meet or exceed the standards in this Plan. If this plan

does not list specific standards an ordinance must meet any State minimums. Required ordinances include:

- Septic system ordinance
- Stormwater ordinance
- Wetland ordinance

Policies:

P36. Administration costs associated with grant-funded projects should be paid by the grant funds or grant matching funds.

7.13 CHLORIDES MEDIUM PRIORITY

Vision:

- No long term increase in chlorides, which are currently low, in SRWMO waters.

Goals:

G47. **Increase municipal snow plow drivers with level 1 MPCA Smart Salting Certification** from one to 100% of member community plow drivers.

G48. **Increase the number of member communities with level 2 MPCA Smart Salting Certification** from zero to four (100%). This is an organizational certification that requires completing an organizational salt saving assessment using the online Winter Maintenance Assessment tool.

G49. **Member communities' will have technology on board plow trucks** that helps ensure only the amount of deicing agent required to achieve safe roads.

SRWMO Actions:

A68. **Periodic monitoring** for chlorides, as described in the Monitoring section of this Plan. The plan currently includes only stream monitoring, but lake monitoring at depth is a medium priority if funds allow.

Member Community Actions:

MC20. **Obtain level 1 MPCA Smart Salting Certification for all snow plow drivers** within two years of adoption of this plan or their hire date.

MC21. **Obtain level 2 MPCA Smart Salting Certification** (one certification per municipality) within two years of adoption of this plan. **Maintain level 2 MPCA Smart Salting Certification** by annually submitting Best Management Practices and Salt Savings report through the MPCA Winter Maintenance Assessment tool.

Policies:

P37. The SRWMO will support member communities when seeking grant funding for "smart" salt application technologies on member communities' plow trucks and other equipment, particularly when equipment replacement is needed. These technologies are aimed at ensuring only the amounts of deicing or traction agents needed to achieve safe roads are applied, saving money and natural resources.

LOWER PRIORITY ISSUES

7.14 DITCHING/DRAINAGE — LOWER PRIORITY

Vision:

- Management authorities for drainage ditches, most of which were dug in in the early 1900's to drain wetland and have since filled in to varying degrees, will consider drainage and possible water quality impacts when making decisions about maintenance cleaning. Cleaning of long-neglected ditches can result in increased flow volumes, sediment and nutrients downstream where they have negative effects.

Goals:

G50. **Ditch maintenance activities, if any, will not have a negative water quality impact** on downstream streams and lakes.

G51. **Replace the deteriorating Linwood Lake outlet weir,** which is owned by the MN DNR. The structure is important to maintain lake levels.

SRWMO Actions:

A69. **Request that the MN DNR consider placing the deteriorating Linwood Lake outlet weir on its list of weir replacement projects**.

Policies:

P38. Inspection, maintenance or repairs on County Ditches is the responsibility of the Anoka County Highway Department.

P39. Private ditches are the responsibility of the owner.

P40. Stormwater conveyance systems owned or operated by the member communities are the responsibility of the respective community.

P41. The SRWMO supports restoration or maintenance of wetlands through ditch abandonment, lack of ditch maintenance, or other techniques where such projects enhance habitat and provide downstream water quality benefits.

P42. When ditch maintenance cleaning is conducted, the SRWMO strongly favors adding water quality treatment such as settling ponds (preferably off-line) or increased stability through two-stage ditch design. The SRWMO will take a leadership role in pursing grant funding for this work in collaboration with the ditch authority.

7.15 CLIMATE CHANGE — LOWER PRIORITY

Vision:

- SRWMO manages water resources in a manner that adapts to the best available climatological data.

Goals:

G52. **Stormwater facilities should be designed to accommodate storm frequencies and intensities in the most up-to-date climatological data**: Atlas 14.

SRWMO Actions:

Member Community Actions:

MC22. **Utilize Atlas 14 precipitation data** when implementing stormwater or development ordinances.

Policies:

P43. Stormwater and drainage facilities should be designed to accommodate storm frequencies and intensities in the most up-to-date climatological data.

7.16 WATER QUANTITY — LOWER PRIORITY

Vision:

- Flooding problems will continue to be absent from the SRWMO. are not known in the SRWMO, but should be examined if they develop

Goals:

G53. **Hydrological systems will be managed to keep current discharge rates and volumes**.

SRWMO Actions:

A70. **Implement stormwater standards** that maintain current discharge rates and volumes for new development and redevelopment.

Member Community Actions:

MC23. **Adopt ordinances or other control measures** consistent with SRWMO Stormwater Standards and Wetland Standards (Appendix B), and a floodplain ordinance that is at least as protective as Minnesota Rules Chapter 6120.5000 to 6120.6200.

MC24. **Perform maintenance measures** to assure proper function of public drainage system, with the exception of County ditches which are managed by the Anoka County Highway Department.

Policies:

P44. Existing culvert sizing and elevations generally should not be changed, as this can result in increased or decreased flow rates and volumes that adversely affect upstream or downstream parties.

P45. New stormwater culverts and conveyances should be sized using Atlas 14 precipitation records for at least 10-year storms.

P46. The SRWMO requires stormwater discharge rates and volume control in new developments and redevelopment to be the same or less than pre-development in order to be protective against future flooding problems.

7.17 FISHERIES — LOWER PRIORITY

Vision:

- SRWMO waters will offer strong recreational fishing opportunities that reflect good water quality and the desires of anglers.

Goals:

G54. **Reduce rough fish** when they negatively affect water quality.

G55. **Maintain strong pan fish populations** that will control spawning success of common carp.

G56. **Winter aeration systems will be used** where winterkills of game fish may occur. Loss of game fish affects recreational opportunities and lake water quality.

SRWMO Actions:

Policies:

P47. Fisheries are managed by the MN DNR.

P48. The SRWMO supports walleye stocking at Coon Lake through a cooperative agreement between the MN DNR and lake groups.

P49. The SRWMO encourages the MN DNR to increase game fish stocking immediately following rough fish removal to encourage a lasting change in the fish community structure.

P50. Winter aeration systems are owned and operated by other entities. The SRWMO will consider, on a case by case basis, any requests for assistance needed to keep these systems operational.

7.18 WILDLIFE HABITAT — LOWER PRIORITY

Vision:

- Enhanced or restored habitat will be a secondary benefit of most other activities in this Plan.
- Protection, restoration, and enhancement activities to create diverse and resilient habitat core and corridors.
- Areas identified in the Minnesota Biological Survey as "outstanding" or "high" significance, have documented native plant communities, or threatened and endangered species present will be protected and managed.
- Where all hydrologically affected landowners agree, drained or degraded wetlands will be restored to benefit water quality and habitat.
- Aquatic habitats will be valued and managed as much as upland habitats.

Goals:

G57. **Private and public owners of biologically significant areas will protect, enhance and/or maintain** ecological integrity.

G58. **Restore at least one wetland** in the SRWMO that benefits water quality and habitat.

SRWMO Actions:

A71. **Connect landowners with habitat programs** at the Anoka Conservation District (ACD) or other agencies to protect, restore, and enhance biologically significant areas. Means to achieve this include a link from the SRWMO website to the ACD website and outreach through a Watershed Conservation Planner housed at Chisago SWCD in 2019-2022.

A72. **Sustain outreach to landowners along Ditch 20** where the SRWMO previously identified wetland restoration projects to benefit water quality. One contact should be made every two years or whenever new wetland restoration funding opportunities are known.

A73. **Review and comment upon development sketch plans**, as described in the Development section of this Plan.

A74. **Promote the values of aquatic habitat to shoreland owners** as described in the Outreach and Education section of this Plan.

Policies:

P51. The SRWMO supports long term protection of areas of high or outstanding biological significance through easement or fee title acquisition by others with a willing landowner. The SRWMO is most strongly supportive when public hunting and fishing access is provided and the area adds to existing networks of adjacent protected habitat.

P52. The SRWMO supports wetland restoration for habitat and water quality enhancement. Such efforts are likely to be primarily carried out by the Anoka Conservation District or other agencies.

P53. The SRWMO supports habitat enhancement projects on private or public projects. The SRWMO is most strongly supportive when activities occur in or adjacent to areas of outstanding or high biological significance as defined by the MN Biological Survey.
P54. The SRWMO requires that shoreland projects that include planting and using utilize SRWMO funds will use at least 75% native plants in shoreland areas.
P55. The SRWMO funds grants for natural resources improvement using local funds. Habitat projects are among the lowest priority use of these funds.

8 IMPLEMENTATION PLAN

This section describes SRWMO implementation actions, cost share grant program to incentivize projects by others, maintenance and regulation.

8.1 SRWMO IMPLEMENTATION PLAN

Tables on the following pages list the SRWMO planned tasks, timing and estimated costs. The SRWMO will make every effort to adhere to this plan, though it may be necessary to deviate due to environmental, staffing, financial, or logistical reasons, or because new information leads the SRWMO Board to believe that a change is appropriate.

Table 10. Implementation plan task descriptions. Timing and estimated costs are in Table 11.

#	Plan Action Reference	Task	Task Description (see text for full description)	Likely Funding*	Likely Partners
Operating Tasks (as defined by JPA)					
1	A65	Recording Secretary services - contractual	Recording Secretary will create and distribute meeting agendas and minutes and help with record keeping.	SRWMO	
2	A65	Administrator services - contractual	Administrator will lead budgeting, preparing agendas and meeting packets, facilitating meeting discussions, administering cost share grants, correspondence, fielding questions or requests from agencies or residents and other miscellaneous administration.	SRWMO	
3	A25	Fiscal mgmt assistance - E Bethel Finance Director & Treasurer	East Bethel's Finance Director assists with general fiscal management including receiving bills, preparing checks and invoices and keeping an account ledger. The Treasurer provides financial reports at each SRWMO meeting, tracks funds for major SRWMO activity categories, and oversees finances.	SRWMO	East Bethel Finance Director, Treasurer
4	A27	Financial contributions calculation update	Update member community's financial contributions to the SRWMO in 2020 and 2025 with new tax base data. The revised contribution amounts will be used in the 2021 and 2026 budgets, respectively.	SRWMO	Member communities
5	A28	Financial audits	Obtain a financial audit by the state auditor or public accountant once every five years as required by MN Statutes 6.756 or when SRWMO revenues exceed the threshold amount in MN Statutes 412.591.	SRWMO	
6		Liability Insurance	Liability insurance, purchased through League of Minnesota Cities Insurance Trust in the past.	SRWMO	
7		Reports to BWSR, State Auditor	Annual reporting to the MN Board of Water and Soil Resources required by MN Rules 8410.0150 and the State Auditor through the SAFES website.	SRWMO	
8	A31	Annual written communication to member communities	SRWMO's on-call administrator will prepare a brief annual written communication piece that summarizes SRWMO work, finances, leveraged funds and current events. It will be used during annual board member reporting to member communities.	SRWMO	
9	A60	Community ordinance reviews	Review member community ordinances and standards for consistency with SRWMO requirements. Communities have 180 after adoption of this plan to update ordinances (MN Statutes 103B.235 subd. 4).	SRWMO	
10		Review/approve community local water plans	SRWMO will review, comment upon and have approval authority over community local water management plans. Communities have 2 yrs after adoption of this plan to update ordinances (MN Statutes 103B.235 subd. 3).	SRWMO	
11		Seek bids for professional services	A WMO shall at least every two years solicit interest proposals for legal, professional, or technical consultant services before retaining the services of an attorney or consultant or extending an annual services agreement (MN Statutes 103B.227, sub. 5). Process led by SRWMO board members. Seek bids for the following year. Expenses are for any public notices.	SRWMO	
Non-operating General					
12		Grant search and applications	The SRWMO will annually review grant opportunities and prepare applications. Important grant sources include the MN DNR, MPCA, and BWSR.	SRWMO	ACD
13	A26	Undesignated reserve	Build and maintain an undesignated reserve of local funds capped at 15% of annual average expenditures for unforeseen circumstances.	SRWMO	
14		Update Watershed Plan	Approximately 1-2 years before expiration of this plan, the WMO will begin the update process. 5th Generation plan is due approx Dec. 31, 2029.	SRWMO	Planning consultant
Communications with Member Communities					
15	A30	Project reporting to member communities	Email project milestone accomplishments to member communities as they occur.	SRWMO	
16	A32	Annual board member reporting to member communities	Annually, SRWMO board members will report in-person to their city council or town board.	SRWMO	
17	A33	Project tours	Provide project tours to city elected officials and staff when major projects are initiated and/or completed.	SRWMO	
Public Outreach					
18	A34, A35, A46, A50, A73	Lake association and community newsletter content	Provide content for newsletters at each lake association following the Newsletters Schedule (separate table in this implementation plan).	SRWMO	Lake assocs, member communities, Anoka Co Water Resource Outreach Collaborative (WROC)
19	A36	Newspaper press releases	Press releases to the Forest Lake Times newspaper to promote completed projects.	SRWMO	WROC
20	A37	Lakeshore restoration guidance materials	Create, or use already available, lakeshore stewardship and lakeshore restoration guidance materials. This will be used by the SRWMO and lake associations for promoting cost share grants.	SRWMO	WROC
21	A38	Shoreland stewardship display	Create a new display about shoreland stewardship to be used at community events.	SRWMO	WROC
22	A38	Community event displays	Host staffed displays at one community event annually. SRWMO board members shall be the primary "staffers" of the displays.	SRWMO	WROC
23	A56	Stakeholder event attendance	SRWMO board member(s) will attend two stakeholder/partner events per year. May include lake association or community events, partner meetings,	SRWMO	
24	A40, A51	Workshops promotion	Promote workshops led by others such as septic system maintenance or lakeshore stewardship. Promote one workshop by 2022 on a trial basis.	SRWMO	U of M Extension, ACD
25	A41-A43	Engage citizen leaders	Seek Eagle Scouts, Master Gardeners, Master Naturalists or similar to promote and lead SRWMO projects such as lakeshore restorations in public places, displays and staffing at community events, project maintenance, etc. The SRWMO will annually identify projects which might be suitable and reach out to these groups for assistance as appropriate.	SRWMO	Community groups
26	A42-A44	Websites	Maintain SRWMO website. Post SRWMO news, meeting dates, etc to Anoka Co Know the Flow website. Provide links amongst websites of SRWMO, member communities and lake associations. Overhaul SRWMO website in 2027 (9 yrs since last overhaul).	SRWMO	ACD, Anoka Co, member communities
27	A45	Anoka Co Outreach Coordinator position	Support a county-wide position housed at the Anoka Conservation District to assist the SRWMO and others with consistent, effective environmental outreach. Support dependent on program performance. Need may exceed SRWMO ability to fund so other partners and grants are important.	SRWMO	WROC
28	A36	Coloring contest	Begin a youth coloring contest to increase awareness of water quality topics. Preferably the program can be coordinated through the county-wide outreach coordinator.	SRWMO	WROC
29	A66	Advisory committees	Utilize technical and citizen advisory committees on an occasional, issue-specific basis.	SRWMO	Stakeholders
30	A61	Promote Well Water Wise	Provide Anoka Co Well Water Wise private well testing program on the SRWMO website.	SRWMO	Anoka Co

#	Plan Action Reference	Task	Task Description (see text for full description)	Likely Funding*	Likely Partners
Water Condition Monitoring					
31	A16-A23, A67	Water condition monitoring	Monitoring of water quality and quantity. See separate monitoring schedule table in this implementation plan.	SRWMO	Lake groups, volunteers, ACD
Development Reviews					
32	A52, A58, A72	Development reviews	Review and provide non-binding comments to member communities on development sketch plans. Costs are billed to the member community where the project occurs.	SRWMO	Member communities
Multi-partner Coordination					
33	A55, A63	Participate in 1W1P	Participate in One Watershed, One Plan (1W1P) for the Lower St. Croix Watershed during 2018-2019. Consider adopting 1W1P in 2019-2020. In subsequent years participate in implementation and funding discussions.	SRWMO	Watershed orgs & counties of the Lower St. Croix watershed
Water Improvement Projects					
34	A1, A70	Ag conservation planning outreach	Assist with identification, prioritization and outreach to parcels where conservation plans can be done by the BWSR/NRCS funded Watershed Conservation Planner housed at Chisago SWCD. May include helping landowners find funding options. Goals of completing 10 plans and implementing five through federal or other existing programs.	SRWMO	Watershed Conservation Planner at Chisago SWCD, ACD
34	A2, A7, A9, A10, A49, A62	Cost share grant program- open to the public	Fund cost share grants for water quality improvement projects including shoreland, stormwater, agricultural and smart irrigation controllers. Lake groups may also apply to fill funding gaps for curly leaf pondweed treatment if the treatment will achieve water quality benefits. Grants will be administered through the Anoka Conservation District.	SRWMO	ACD
35	A6, A9, A49	Cost share grant program - through lake associations	Start a new lakeshore restorations program that provides project funding to be promoted through lake associations who are willing. The program purpose is to increase citizen BMP installations by running the incentives through neighborhood-level groups rather than directly from government. Lake associations will be part of the program and a first point of contact, but not run it solo. Allocated funds include both program setup and pass thru grants. Plan to request, but not require, a small supporting contribution from lake associations.	SRWMO, grants	Lake groups, ACD
36	A4, A50	Carp removals	Complete carp removals to achieve 100 lbs/hectare, or a level recommended in professional assessments of the carp population. This work is needed at Martin and Typo Lakes. Studies at Linwood, Martin and Typo Lakes are underway to determine removals needed. Removal projects should include tracking carp populations and lake vegetative response.	SRWMO, grants	Lake groups, ACD, Carp Solutions LLC
37	A11, A59	Stormwater retrofits	Build projects identified and ranked by cost-effectiveness in completed subwatershed analyses, and any subsequent additional studies. Studies are completed for Martin and Coon Lake direct drainages.	SRWMO, grants	Lake groups
38	A13, A71	Ditch 20 wetland restoration outreach	Sustain outreach to landowners along Ditch 20 where the SRWMO previously identified wetland restoration projects to benefit water quality. One contact should be made every two years or whenever new wetland restoration funding opportunities are known.	SRWMO	BWSR (wetland banking), USFWS
39	A57	Demonstration projects on public lands	Seek to implement shoreline or stormwater management demonstration projects, or educational outreach projects with Anoka County Parks, particularly at Coon, Linwood and Island Lakes, or lands owned by Coon Lake Beach Improvement Assoc. Candidate projects at Anoka Co Parks include outreach at a $50K new Island Lake fishing pier, outreach at the $500K boardwalk and trail replacement at Camp Salie Island Lake, and adding a stormwater treatment demonstration at a $515K Camp Salie improvements that incldue road and parking re-paving.	SRWMO, grants	Anoka Co Parks
40	A5	Support carp barrier annual maintenance	Send spring and fall reminders of screen installation and removal, based on date and water temperature.	SRWMO	Linwood Township
41	A15	Model projects' pollutant reductions	Model pollutant reductions for SRWMO projects and report achievements to the St. Croix Basin Partnership Team. Done as part of project reporting.	Project's funding source	ACD
42	A68	Linwood Lake weir repair request	Request that the MN DNR consider placing the deteriorating Linwood Lake outlet weir on its list of weir replacement projects.	SRWMO	DNR
43		Point of Sale SSTS inspections	Develop ordinances and processes for point of sale subsurface sewage treatment systems (SSTS; septic systems) in Ham Lake and Linwood Township, and consider any options to improve efficiency or effectiveness in Columbus and East Bethel. This task is dependent upon securing a grant; member communities whose ordinance or process will benefit are to provide grant match.	SRWMO, Member community, grants	Member communities
44	Multiple	Projects identified in adopted guidance documents	Projects that are prioritized, targeted and measurable; vetted through scientific and stakeholder processes, and in adopted guidance documents.	SRWMO, grants	
Studies and Inventories					
45	A3	Carp management feasibility and effectiveness studies	Screen carp population levels in Linwood (2018-2019) and possibly Coon Lake (2025) to determine biomass per acre and carp management feasibility. In other years carp and vegetation studies will be done at lakes where carp removals have been done to determine effectiveness and future management. Notes: Vegetation surveys already being done at Coon Lake for AIS treatment. Whether work occurs at Coon Lake is dependent upon further discussion with stakeholders, DNR Fisheries. Substitute projects, based on guidance documents in this plan, may occur at Coon Lake instead.	SRWMO, grants	Carp Solutions LLC
46	A8	Lakeshore photo inventories	Complete georeferenced photo inventory of lakeshore at Coon, Linwood, Martin, Typo and Fawn Lakes. Use to map target audiences for shoreland BMP outreach. Repeat in 2026 and track changes.	SRWMO and/or ACD	ACD
47	A7	Alum feasibility studies	Conduct studies to determine the feasibility of alum treatments in impaired lakes. Alum chemical addition binds phosphorus. Any study will include an assessment of the social acceptability, costs and benefits. Before pursuing grant funding the SRWMO will discuss the concept with lake residents to gauge support considering effects of clearer water on macrophytes. In the event that an alum feasiblity study is not pursued, a subwatershed stormwater retrofitting study for lands draining to Linwood Lake will receive strong consideration as the "backup priority."	SRWMO, grants will be essential	ACD, Consultant
48	A12	Linwood Lake subwatershed retrofitting study	A study to identify and rank by cost effectiveness water quality improvement projects on lands draining to Linwood Lake. A specific subwatershed may be chosen based on land uses and professional and resident input.	SRWMO, grants	ACD

* Where "grants" are listed as a likely funding source the activity may not occur without a grant. The SRWMO & partners could provide grant matching funds.

Table 11. Implementation plan timeline and estimated costs.

			Estimated Expenditure										
#	Plan Action	Funding*	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
Operating Tasks (as defined by JPA)													
1	Recording Secretary services - contractual	SRWMO	$1,400	$1,449	$1,500	$1,552	$1,607	$1,663	$1,721	$1,781	$1,844	$1,908	$16,424
2	Administrator services - contractual	SRWMO	$6,000	$6,210	$6,427	$6,652	$6,885	$7,126	$7,376	$7,634	$7,901	$8,177	$70,388
3	Fiscal mgmt assistance - E Bethel Finance Director & Treasurer	SRWMO	Provided by East Bethel, no cost to SRWMO										$0
4	Financial contributions calculation update	SRWMO	$320					$320					$640
5	Financial audits	SRWMO	$3,000					$3,563					$6,563
6	Liability Insurance	SRWMO	$1,850	$1,550	$1,581	$1,613	$1,645	$1,678	$1,711	$1,746	$1,780	$1,816	$16,970
7	Reports to BWSR, State Auditor	SRWMO	$1,100	$1,139	$1,178	$1,220	$1,262	$1,306	$1,352	$1,400	$1,448	$1,499	$12,905
8	Annual written communication to member communities	SRWMO	$600	$621	$643	$665	$689	$713	$738	$763	$790	$818	$7,039
9	Community ordinance reviews	SRWMO	$1,920										$1,920
10	Review/approve community local water plans	SRWMO		$2,240									$2,240
11	Seek bids for professional services	SRWMO		$100		$100		$100		$100		$100	$500
Non-operating General													
12	Grant search and applications	SRWMO	$1,000	$1,035	$1,071	$1,109	$1,148	$1,188	$1,229	$1,272	$1,317	$1,363	$11,731
13	Undesignated reserve	SRWMO	$2,029										$2,029
14	Update Watershed Plan	SRWMO									$27,000	$27,000	$54,000
Communications with Member Communities													
15	Project reporting to member communities	SRWMO	Included in project costs and project manager duties										$0
16	Annual board member reporting to member communities	SRWMO	Provided by SRWMO board members										$0
17	Project tours	SRWMO	$1,660					$1,850				$2,000	$5,510
Public Outreach													
18	Lake association and community newsletter content	SRWMO	$920	$2,190	$1,168	$938	$2,184	$1,000	$820	$1,050	$860	$1,100	$12,230
19	Newspaper press releases	SRWMO	Included in project costs and project manager duties										$0
20	Lakeshore restoration guidance materials	SRWMO			$3,300								$3,300
21	Shoreland stewardship display	SRWMO	$2,520										$2,520
22	Community event displays	SRWMO	Provided by SRWMO board members										$0
23	Stakeholder event attendance	SRWMO	Provided by SRWMO board members										$0
24	Workshops promotion	SRWMO			$815								$815
25	Engage citizen leaders	SRWMO	Included in administrator duties										$0
26	Websites	SRWMO	$700	$725	$750	$776	$803	$831	$860	$2,891	$921	$953	$10,210
27	Anoka Co Outreach Coordinator position	SRWMO		$2,500	$4,450	$4,606	$4,767	$4,934	$5,106	$5,285	$5,470	$5,662	$42,780
29	Advisory committees	SRWMO	Included in administrator duties										$0
30	Promote Well Water Wise	SRWMO		$50	$52	$54	$55	$57	$59	$61	$64	$66	$518
Water Condition Monitoring													
31	Water condition monitoring	SRWMO	$8,541	$16,446	$10,369	$9,125	$18,535	$9,775	$8,114	$17,780	$8,632	$11,217	$118,535
Development Reviews													
32	Development reviews	MC**	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$10,000
Multi-partner Coordination													
33	Participate in 1W1P	SRWMO	$640	$662	$686	$710	$734	$760	$787	$814	$843	$872	$7,508

#	Plan Action	Funding*	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
Water Improvement Projects													
34	Ag conservation planning outreach	SRWMO		$1,120	$1,120								$2,240
		Grants											$0
35	Cost share grant program- open to the public	SRWMO	$2,000	$2,500	$1,500	$1,500	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$13,500
		Grants											$0
36	Cost share grant program - through lake associations	SRWMO			$7,500	$6,250		$3,500	$3,500	$3,500			$24,250
		Grants			$30,000	$25,000		$14,000	$14,000	$14,000			$97,000
37	Carp removals	SRWMO	$10,000	$7,500	$7,500								$25,000
		Grants	$40,000	$30,000	$30,000								$100,000
38	Stormwater retrofits	SRWMO	***										$0
		Grants	$133,580										$133,580
39	Ditch 20 wetland restoration outreach	SRWMO		$320		$343		$367		$393			$1,423
		Grants											$0
40	Demonstration projects on public lands	SRWMO						$6,750	$6,750				$13,500
		Grants						$27,000	$27,000				$54,000
41	Support carp barrier annual maintenance	SRWMO	Included in administrator duties										$0
		Grants											$0
42	Model projects' pollutant reductions	SRWMO	Included in project costs and project manager duties										$0
		Grants											$0
43	Linwood Lake weir repair request	SRWMO	$0										$0
		Grants											$0
44	Point of Sale SSTS inspections	SRWMO											$0
		Communities			$2,000								$2,000
		Grants			$8,000								$8,000
45	Projects identified in adopted guidance documents	SRWMO	$3,800	$0	$0	$0	$0	$0	$11,000	$14,500	$0	$0	$29,300
		Other****					$6,000						
		Grants	$15,200				$24,000		$44,000	$58,000			$141,200
Studies and Inventories													
46	Carp management feasibility and effectiveness studies	SRWMO	***			$2,000		$4,500					$6,500
		Grants	$21,420			$8,000		$18,000					$47,420
47	Lakeshore photo inventories	SRWMO	Provided by ACD in 2020						$2,000				$2,000
		Grants							$8,000				$8,000
48	Alum feasibility studies	SRWMO				$5,500	$5,500						$11,000
		Grants				$22,000	$22,000						$44,000
49	Linwood Lake subwatershed retrofitting study	SRWMO				$2,000	$2,000						$4,000
		Grants				$8,000	$8,000						$16,000

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	TOTAL
SRWMO Total	**$50,000**	**$48,356**	**$51,609**	**$46,711**	**$48,814**	**$52,981**	**$54,124**	**$61,970**	**$59,869**	**$65,551**	**$539,987**
SRWMO grant match	**$13,800**	**$8,620**	**$16,120**	**$10,250**	**$2,000**	**$14,750**	**$21,250**	**$18,000**	**$0**	**$0**	**$104,790**
Grants	$210,200	$30,000	$60,000	$63,000	$54,000	$59,000	$93,000	$72,000	$0	$0	$641,200
Communities	$1,000	$1,000	$3,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$1,000	$12,000
TOTAL	$275,000	$87,976	$130,729	$120,961	$105,814	$127,731	$169,374	$152,970	$60,869	$66,551	$1,297,977

*When both SRWMO and grants may fund a project, SRWMO are anticipated match for a grant, if secured.

** MC= member community where the development is occurring.

*** SRWMO grant matching dollars provided in 2018-19. Watershed Based Funding grant secured in 2018, to be spent through 2021.

**** Other sources are most likely lake groups.

Grants are assumed to have a 25% match requirement. However, some grants require only 10% and the SRWMO expenditure may therefore be less.

The actual timing of water quality improvement projects and studies/inventories may differ from that shown above due to dependence on grant funding.

Table 12. Water monitoring plan. This table provides a breakout of water monitoring listed in Tables 11 and 12.

Type	Sites	2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		Notes
Effectiveness Monitoring																						
Lake water quality	Martin Lake	✓	$1,850	✓	$1,982	✓	$2,051	✓	$2,123	✓	$2,197	✓	$2,274			✓	$2,436			✓	$2,610	Professional monitoring of TP, chl-a & trans every 1-2 yrs.
	Typo Lake	✓	$1,850	✓	$1,982	✓	$2,051	✓	$2,123	✓	$2,197	✓	$2,274			✓	$2,436			✓	$2,610	
Stream water quality	Typo Cr at Typo Cr Dr					✓	$1,552			✓	$1,663							✓	$1,844			TP, pH and TSS (streams) every 1-2+ yrs.
Diagnostic Monitoring																						
Lake water quality	Boot Lake			✓	$1,982																	Pro monitoring of TP, chl-a & trans for 3 yrs (2018, 2019 done).
Stream water quality	Data Cr at Typo Cr Dr													✓	$1,721							TP and TSS at Data Cr for one of every 10 yrs
Lake depth profiles	Coon Lake W Bay													✓	$246							Pro DO and temp measurements twice at 1 m intervals once every 10 yrs. Must be done separate from volunteer monitoring by professionals.
	Coon Lake E Bay													✓	$246							
	Linwood Lake													✓	$246							
	Martin lake													✓	$246							
Surveillance Monitoring																						
Lake levels	Coon Lake	✓	$315	✓	$326	✓	$337	✓	$349	✓	$361	✓	$374	✓	$387	✓	$401	✓	$415	✓	$429	Volunteer-recorded water levels in all years. Fee is for volunteer coordination.
	Linwood Lake	✓	$315	✓	$326	✓	$337	✓	$349	✓	$361	✓	$374	✓	$387	✓	$401	✓	$415	✓	$429	
	Martin Lake	✓	$315	✓	$326	✓	$337	✓	$349	✓	$361	✓	$374	✓	$387	✓	$401	✓	$415	✓	$429	
	Typo Lake	✓	$315	✓	$326	✓	$337	✓	$349	✓	$361	✓	$374	✓	$387	✓	$401	✓	$415	✓	$429	
	Fawn Lake	✓	$315	✓	$326	✓	$337	✓	$349	✓	$361	✓	$374	✓	$387	✓	$401	✓	$415	✓	$429	
Lake secchi transparency - volunteer coordination	Coon Lake W Bay	✓	$73	✓	$76	✓	$78	✓	$81	✓	$84	✓	$87	✓	$90	✓	$93	✓	$96	✓	$99	Volunteer-recorded transparency in all years. Fee is for volunteer coordination.
	Coon Lake E Bay	✓	$73	✓	$76	✓	$78	✓	$81	✓	$84	✓	$87	✓	$90	✓	$93	✓	$96	✓	$99	
	Linwood Lake	✓	$73	✓	$76	✓	$78	✓	$81	✓	$84	✓	$87	✓	$90	✓	$93	✓	$96	✓	$99	
	Martin Lake	✓	$73	✓	$76	✓	$78	✓	$81	✓	$84	✓	$87	✓	$90	✓	$93	✓	$96	✓	$99	
	Typo Lake	✓	$73	✓	$76	✓	$78	✓	$81	✓	$84	✓	$87	✓	$90	✓	$93	✓	$96	✓	$99	
	Fawn Lake*	✓	$73	✓	$76	✓	$78	✓	$81	✓	$84	✓	$87	✓	$90	✓	$93	✓	$96	✓	$99	
	Island Lake	✓	$73	✓	$76	✓	$78	✓	$81	✓	$84	✓	$87	✓	$90	✓	$93	✓	$96	✓	$99	
	5 small lakes w/o public	✓	$365	✓	$378	✓	$391	✓	$405	✓	$419	✓	$433.51	✓	$448.68	✓	$464.38	✓	$480.64	✓	$497.46	
Lake water quality	Coon Lake W Bay			✓	$1,982					✓	$2,197					✓	$2,436					ACD professional monitoring TP, chl-a & trans every 3 yrs. Samples every 2 wks May-Sept.
	Coon Lake E Bay			✓	$1,982					✓	$2,197					✓	$2,436					
	Linwood Lake			✓	$1,982					✓	$2,197					✓	$2,436					
	Island Lake*																					
Chloride sampling - streams	W Branch Sunrise R at Co Rd 77									✓	$836							✓	$993			Professional monitoring of chloride and conductivity in 2 of 10 yrs for streams. 8 samples/yr. Combine with lake sampling trips.
Wetland levels	3 reference wetlands	✓	$1,950	✓	$2,018.25	✓	$2,088.89	✓	$2,162.00	✓	$2,237.67	✓	$2,315.99	✓	$2,397.05	✓	$2,480.94	✓	$2,567.78	✓	$2,657.65	Datalogged water levels at edge of long-term wetland monitoring sites
Precipitation	Recruit 4 volunteers	✓	$440																			Expand MN State Climatology volunteer network in SRWMO from 3 to 7 sites. Fees are for volunteer recruitment.
	TOTAL		**$8,541**		**$16,446**		**$10,369**		**$9,125**		**$18,535**		**$9,775**		**$8,114**		**$17,780**		**$8,632**		**$11,217**	

Fees are Anoka Conservation District fees plus 3.5% inflationary increase per year.

* Monitoring to occur only by volunteers and/or if funds become available.

** Five small lakes without public access are Pet, Rice, South Coon, Skunk and Tamarack

Table 13. Newsletters plan. This table provides a breakout of lake association and community newsletters listed in Tables 11 and 12.

Message	Target Audience(s)	Frequency of Outreach	2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		Notes
High Priority			Lake	City	Lake	City	Lake	City	Lake	City	Lake	City	Lake	City	Lake	City	Lake	City	Lake	City	Lake	City	
Promote lakeshore restorations and stewardship practices	Lakeshore owners	1-3x per year	1		1*		1		1		1		1		1		1		1		1		Additional outreach in years of organized project promo.
SRWMO's existence and programs	Community-wide Lake associations Elected officials	1-2x per year		1		1*		1		1		1		1		1		1		1		1	
Financial assistance to fix a failing septic system	Shoreland district homes	1x per year		1	1*			1	1			1	1			1	1			1	1		
Medium Priority																							
Aquatic plants have value, don't tear them out	Lakeshore owners	1-3x per year	1		1*		1		1		1		1		1		1		1		1		
Stop aquatic hitchhikers	Lake users	Continuous on SRWMO website + 1x/yr in 5 of 10 yrs				1*				1				1				1				1	Existing "Stop Aquatic Hitchhikers" images shall be 90%+ of the content.
Lower Priority																							
How to maintain your septic system	Homeowners	1x per yr in 2 of 10 yrs						1*															
Conserve groundwater	Community-wide	3x per yr in 1 of 10 yrs									3*	3											Promote smart irrigation controllers.
Use phosphorus-free fertilizer, it's the law	Community-wide	occasional																					
Use less deicing salt	Municipal staff*	occasional																					Use emails to municipal staff.
		TOTAL	2	2	3	2	2	3	3	2	5	5	3	2	2	2	3	2	2	2	3	2	
		Estimated cost	$920		$2,190		$1,168		$938		$2,184		$1,000		$820		$1,050		$860		$1,100		

"Lake" = provide content to lake association newsletters.
"City" = provide content to member community newsletters.
* In years marked with an asterisk new unique content will be developed that will largely be reused in future years. This reusable content will be largely infographics or imagery with a small amount of impactful text. Use of already prepared materials, particularly those created by the Anoka County Outreach program, is encouraged.

Table 14. Funding carried forward by year.

The SRWMO wishes to budget a consistent amount to keep community tax levies flat, except for an adjustment in 2026. To accomplish this, any unspent funds from years with lower expense will be carried forward to future years with more expense. The 10-year carryover funds balance will be at or near $0. In other words, while revenues may not equal expenditures in each year, but will over 10 years.

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Planned Budget	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$60,000	$60,000	$60,000	$60,000
Planned Expenses	$50,000	$48,356	$51,609	$46,711	$48,814	$52,981	$54,124	$61,970	$59,869	$65,551
Budget minus Expenses	$0	$1,644	-$1,609	$3,289	$1,186	-$2,981	$5,876	-$1,970	$131	-$5,551
Carryover Funds Balance	$0	$1,644	$34	$3,323	$4,509	$1,528	$7,403	$5,433	$5,564	$13

8.2 GUIDANCE DOCUMENTS

Numerous studies and reports have been produced that should guide the SRWMO. These guidance documents, shown in Appendix D, are hereby incorporated into this Sunrise River Watershed Management Plan by reference. The contents, and especially the management recommendations, in these guidance documents will be used the by SRWMO in year-to-year decision-making. The guidance documents will be a source of projects, alternate projects or project reasoning for the SRWMO. The SRWMO reserves the right to modify or replace planned projects with those in the guidance documents.

This list of guidance documents may be updated from time to time by minor amendment of the SRWMO Watershed Management Plan. New guidance documents will be incorporated into the SRWMO Plan by minor amendment. For subwatershed studies or similar project ranking studies done by the SRWMO, the SRWMO will follow methodologies consistent with previous studies that result in a list of projects that are ranked by cost effectiveness at pollution reduction. These studies typically include advisory assistance from the member community where the study occurs, as well as the Anoka Conservation District and others the SRWMO deems appropriate such as lake associations. A SRWMO Advisory Committee will review proposed guidance documents and make a recommendation to the SRWMO Board on their incorporation into the plan.

8.3 Cost Share Grant Program

The SRWMO will maintain a cost share grant program to incentivize natural resource improvement projects. At the beginning of the plan period this program is funded with only local dollars. Later, the program is likely to use state grant dollars too. As the program changes, its policies are also likely to change. Therefore, grant policies are kept on the SRWMO website where they can be periodically updated.

Important policies include:

- Allowable project types.
- Priority locations, including specific waterbodies.
- Limits on financial support.
- Application and approvals process.
- Requirements for ownership and maintenance.

As of 2019, and likely in the future, the grants are administered through the Anoka Conservation District (ACD). By having SRWMO grants and many other grants administered through ACD we create a "one stop shop" for our constituents. The SRWMO has policies in writing with ACD specifying the approval process and a process for involving the SRWMO board in deliberations for any application if they wish.

8.4 Administrative and Operational Assistance

The SRWMO anticipates contracting for administrative and project management services throughout implementation of this plan. There are two contracted positions: recording secretary and administrator.

The recording secretary position takes meeting minutes, distributes meeting materials, prepares checks and handles the mail.

The administrator position is contracted annually. The administrator is expected to carry out day-to-day operations following the annual contract and following board policies. The extent of the administrator's responsibilities and authorities are specified in the contract and may vary by year or selected administrator.

It is worth noting that the City of East Bethel's Finance Director also provides administrative services but charges no fee. This person keeps the SRWMO checkbook, financial ledger and related documents and generally assists the board Treasurer.

8.5 Operation and Maintenance

8.5.1 SRWMO Project Operation and Maintenance

The SRWMO ensures operations and maintenance of its projects are formalized through a contract or similar means. In the past, these responsibilities have been accepted by a member community, landowner or cooperating agency such as the Anoka Conservation District. The SRWMO does not anticipate taking such a role

for future projects because it lacks staff, but the SRWMO may consider these roles on a case by case basis before new project construction.

8.5.2 Water System Operation and Maintenance

Maintenance to water conveyance systems is the responsibility of member communities or other agencies. The Anoka County Highway Department has jurisdiction over county ditches. Most structures within public waters, such as lake outlets, are under MN DNR jurisdiction. Storm water conveyance systems are the responsibility of the respective community.

8.5.3 Required community regulations

The SRWMO does not have a permitting or regulatory program, but does require that each member community have certain regulatory controls and performance standards in place (Table 15). The SRWMO has chosen this approach because these and other regulatory controls are already administered by the communities, because this allows communities the opportunity to customize their approaches to their individual circumstances, and in order to minimize SRWMO operating expenses.

Table 15. Regulatory controls and performance standards required in each SRWMO community.

Regulatory Control	Required Content
Septic system ordinance	Consistent with Minnesota Rules 7080-7082, Statues 115.55-56 and SRWMO standards (Appendix B).
Stormwater ordinance	Consistent with SRWMO storm water standards (Appendix B).
Wetland ordinance	Consistent with SRWMO wetland standards (Appendix B). Additionally, the community shall serve as the local governmental unit administering the state Wetland Conservation Act.

Note that communities are also expected to implement erosion control and shoreland ordinances. These do not have SRWMO-required content because State rules already provide minimum required content. Erosion and sediment control must be consistent with the MPCA Construction General permit and Shoreland ordinances must be compliant with Minnesota Rules, Chapter 6120.2500 through 6120.3900.

8.5.4 Variances

The members may grant variances from SRWMO standards only if extraordinary or unnecessary hardship will result from strict compliance. However, these variances should not subvert the intent and purpose of the standards or the SRWMO's management plan, and should not grant special convenience or rights to any person or group. In accordance with these provisions, variances may be granted only if all of the following circumstances exist:

1. The purpose of the variance is to alleviate unique non-economic conditions or circumstances that are not the result of any action by the applicant.

2. The exceptional or unusual circumstances for which the variance is requested do not apply generally to other properties adjacent to the same water resource and are the result of topography or other natural circumstances over which the property owners have no control.
3. Granting the variance will not confer special privileges to the applicant that are otherwise denied to the owners of other lands adjacent to the water resources or to public users of the resource.
4. The variance will not result in conditions that do not meet standards set by state law or by regulations of other governmental bodies, and it will not permit a lower degree of flood protection than that provided to other lands adjacent to the water resource.
5. The variance is the minimum variance that will alleviate the hardship.
6. The variance will not violate the spirit and intent of the SRWMO's management plan.
7. The variance will not adversely affect the use of other properties not controlled by the applicant and will not unduly limit the way in which other properties not under the applicant's control may be used or developed.
8. Hardship means the proposed use of the property and associated structures in question cannot be established under the conditions allowed by the ordinance or its amendments and no other reasonable alternate use exists; however, the plight of the landowner must be due to physical conditions unique to the land, structure or building involved and are not applicable to other lands, structures or buildings in the same zoning district. These unique conditions of the site cannot be caused or accepted by the landowner after the effective date of the ordinance, its amendments or previous like ordinances.
9. Economic considerations alone shall not constitute a hardship.

8.5.5 SRWMO Regulatory Oversight

The SRWMO will retain the right to monitor or become engaged in the local governments' permitting activity with regard to enforcement and consistency with the approved SRWMO Watershed Management Plan. If the SRWMO finds that a member community fails to implement its regulatory program consistent with the SRWMO Watershed Management Plan, the SRWMO shall take actions necessary to ensure SRWMO standards are implemented. The SRWMO's first step will be to communicate concerns to the community, first via the SRWMO Board member from that community, second through a letter, and third by meeting with the city council or town board. If inadequacies cannot be remedied by other means, the SRWMO Joint Powers Agreement and Minnesota Statutes, Section 103B.211 provides that the WMO has:

> "the authority of a watershed district under chapter 103D to regulate the use and development of land in the watershed when one or more of the following conditions exists:

(i) the local government unit exercising planning and zoning authority over the land under sections 366.10 to 366.19, 394.21 to 394.37, or 462.351 to 462.364, does not have a local water management plan approved and adopted in accordance with the requirements of section 103B.235 or has not adopted the implementation program described in the plan;

(ii) an application to the local government unit for a permit for the use and development of land requires an amendment to or variance from the adopted local water management plan or implementation program of the local unit;

(iii) the local government unit has authorized the organization to require permits for the use and development of land;"

9 IMPACT ON LOCAL GOVERNMENT

9.1 LOCAL CONTROLS

Member communities must have local controls, such as ordinances, consistent with SRWMO standards in Appendix B. The status of member communities' local controls/ordinances is listed in Table 16. Communities will be asked through annual reporting to confirm that required ordinances are in place. The SRWMO may perform spot checks during review of local water management plans.

Table 16. Status of required regulatory controls in SRWMO communities (March 2019). Updates needed to be consistent with SRWMO standards are listed. This table is meant as a brief summary and may not include all updates needed. In-depth ordinance review, and any updates needed, must occur by each community within two years of SRWMO plan adoption or revision of SRWMO standards.

Regulatory Control	Columbus	East Bethel	Ham Lake	Linwood
Septic system ordinance	Ok	Add point of sale inspections, if a grant can be secured to fund the process. Send maintenance reminder letters at 3-yr anniversary of last pumping.	Add point of sale inspections, if a grant can be secured to fund the process	Add point of sale inspections, if a grant can be secured to fund the process.
Stormwater ordinance	Reference Atlas 14. Update to reference new SRWMO standards.	Reference Atlas 14. Add pre-and post development pollutants and rates must be equal.	OK	Reference Atlas 14. Update retention requirement from 0.5" to 1" from new impervious surfaces. Add pre-and post development pollutants and rates must be equal. Add provisions for when infiltration is not wise or possible. All maintenance agreement requirement for infiltration practices.
Wetland ordinance	Add that buffer areas must be protected during the construction process. Add that buffers shall be perennial unmowed vegetation within drainage and utility easement. Add that stormwater	Add that buffers shall be perennial unmowed vegetation within drainage and utility easement. Add that stormwater dischared to wetland must be treated to SRWMO standards and water level	Add that buffers shall be perennial unmowed vegetation within drainage and utility easement. Add that stormwater dischared to wetland must be treated to SRWMO standards and water level	OK

Regulatory Control	Columbus	East Bethel	Ham Lake	Linwood
	dischared to wetland must be treated to SRWMO standards and water level bounce in wetlands should follow MPCA guidance document.	bounce in wetlands should follow MPCA guidance document.	bounce in wetlands should follow MPCA guidance document.	
Local Water Plan	Update for consistency with SRWMO Plan. Adopting the SRWMO plan by reference is allowed.			
Consolidation	Need to work to consolidate local rules, particularly for stormwater and wetlands, into a single location. Some rules spread throughout ordinance, local water plans, storm water pollution prevention plans and engineering guidance.			OK

The fact that staff or elected officials from all four member communities participated in the formulation of SRWMO standards gives assurances that the standards will be successfully implemented. The technical advisory committee that formulated the performance standards did so with a consensus-minded approach. All of the SRWMO standards have been examined and accepted by staff or elected officials from each member community before inclusion in this plan.

9.2 Maintenance Responsibilities

Maintenance to water conveyance systems is the responsibility of member communities or other agencies. The Anoka County Highway Department has jurisdiction over county ditches. Most structures within public waters, such as lake outlets, are under MN DNR jurisdiction. Storm water conveyance systems are the responsibility of the respective community. Member communities must carry out tasks listed in the Impact On Local Government chapter of this Plan, which is the same as the tasks listed in the Goals, Policies and Actions chapter of this Plan for stormwater.

Table 17. Maintenance of the storm water conveyance system to be carried out by communities.

Maintenance	Specifications	Status
Map stormwater system	Each community must have maps of their storm water conveyance system for proper maintenance. These maps should include the location, size, elevation, and condition of all stormwater conveyances, water quality or quantity treatment features, outfalls, and culverts. This was to be completed by 2014 per the 3rd Generation SRWMO Watershed Management Plan. **Linwood Township has not yet completed this task and needs to do so.**	Done in: East Bethel Ham Lake Need to do in: Linwood Columbus (partially complete)
Street sweeping	The SRWMO requires sweeping of streets with curb and gutter once annually in all areas, and twice annually in priority areas. Priority areas shall be areas that drain directly to water bodies and/or natural wetlands without pretreatment of storm water runoff. Roadside ditches in rural areas will constitute treatment.	Done in: All communities, ongoing
Inspections	The SRWMO requires that member communities inspect storm water treatment basins least every 5 years. Sump catch basins/manholes shall be inspected every year. Maintenance shall be conducted as necessary.	Done in: All communities, ongoing

9.3 Financial Impact

The SRWMO is financed by the member communities, and additional financial capacity is achieved through partnerships and grants. The SRWMO joint powers agreement specifies how SRWMO financing is divided amongst member communities. As of spring 2019 operating (basic administrative) expenses are split equally amongst the communities and other expenses are split by a formula that considers market value and land of each community in the SRWMO. Estimated financial impact to member communities of implementing this watershed management plan are shown in Table 18.

Table 18. Estimated financial contributions from each member community each year.

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Operating expenses (split equally)	$13,531	$13,531	$13,531	$13,531	$13,531	$13,531	$13,601	$13,601	$13,601	$13,601
Non-Operating expenses (split by unique percentages)	$36,469	$36,469	$36,469	$36,469	$36,469	$36,469	$46,399	$46,399	$46,399	$46,399
Total expenses	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$60,000	$60,000	$60,000	$60,000
Columbus 25% operating expenses + 16.72% other	$9,480	$9,480	$9,480	$9,480	$9,480	$9,480	$11,158	$11,158	$11,158	$11,158
East Bethel 25% operating expenses + 32.93% other	$15,392	$15,392	$15,392	$15,392	$15,392	$15,392	$18,679	$18,679	$18,679	$18,679
Ham Lake 25% operating expenses + 3.95% other	$4,823	$4,823	$4,823	$4,823	$4,823	$4,823	$5,233	$5,233	$5,233	$5,233
Linwood 25% operating expenses + 46.40% other	$20,305	$20,305	$20,305	$20,305	$20,305	$20,305	$24,929	$24,929	$24,929	$24,929
Total community contributions	$50,000	$50,000	$50,000	$50,000	$50,000	$50,000	$60,000	$60,000	$60,000	$60,000

Notes:

This table is based on anticipated SRWMO budget amounts of $50,000/yr for 2020-2025 and $60,000/yr for 2026-2029. Average annual operating and non-operating expenses during these periods are used to calculate community contributions each year. The percentage contribution for non-operating expenses is based on land area and market valuation. Periodic updates to the percentages are planned.

Additional costs include work conducted by the individual members that improve or protect water quality, including completing member community tasks in this Plan. This includes administering the Wetland Conservation Act, street sweeping, regulation and others. This work has been ongoing for many years, is included in this plan, and illustrates the high commitment of resources by the members to maintaining and improving water resources.

This plan does not prescribe the means by which to fund the plan, rather, that is left to the discretion of the member communities. The Metropolitan Surface Water Management Act gives local governments within the WMO the authority to levy taxes without regard to existing levy limitations to pay for water resource planning and management activities required under the Act. A local government can also apply a local levy over part of its jurisdiction by creating a local drainage district for tax and planning purposes.

The SRWMO recognizes that implementing some projects in this Plan will require funding aside from that provided by the member communities. The implementation plan in this document lists estimated amounts of other funding needed, as well as possible sources including grants, lake associations, and other units of government such as the Anoka Conservation District or adjacent counties. It is anticipated that grants utilizing the State Clean Water Land and Legacy Amendment dollars will be the largest among these funding sources.

10 EVALUATION AND REPORTING

10.1 SRWMO

The SRWMO is responsible for evaluating its progress in achieving its goals and reporting annually to the BWSR, per Minnesota Rules 8410.0150. As specified earlier in this plan, the SRWMO will:

- **Prepare an annual report** to the State consistent with MN Rules 8410.0150 within 120 days of the end of each calendar year.
- **Prepare an annual financial report** to the State Auditor consistent with MN Rules 8410.0150 within 180 days of the end of the organization's fiscal year.
- **Undergo a financial audit** annually unless the organization's revenue is below the threshold amount specified in MN Statutes sections 6.756 and 412.591, in which case an audit is required once every five years.
- **Maintain the SRWMO website**. Minimum contents are specified in MN Rules 8410.00150 subp 3a to provide operational transparency.
- **Biennial Evaluation of Progress**. A minimum of every two years the SRWMO must evaluate progress on goals and the implementation actions. This required activity will be accomplished during annual report preparation.

To facilitate annual reporting and self-evaluation the SRWMO has prepared a template for self-evaluation of goals and implementation activities. The template will be populated annually and used within annual reports to BWSR.

10.2 MEMBER COMMUNITIES

Each year each community will submit an annual report to the SRWMO using Appendix C as a template. It is a "to do" list for the communities and a way for the SRWMO to ensure that this work is being completed. The SRWMO will set a due date for these annual reports before the SRWMO's annual report to BWSR is due so community accomplishments can be included in the report to BWSR.

If a member community is failing to implement their local water plan or SRWMO Plan, the SRWMO will:

- Notify the community of the concern and request a response within 60 days.
- If the matter remains unresolved, a SRWMO manager will notify the city council or town board in-person.
- If the matter remains unresolved, notify the MN Board of Water and Soil Resources and all the member communities of the concern and request a meeting to discuss the matter.
- If the matter remains unresolved, the SRWMO will seek legal advice specific to the issue and consider amending its plan to take over responsibility for the task that is not being implemented.

11 AMENDMENTS TO PLAN

This plan is intended to be valid for 10 years after the date of approval by the MN Board of Soil and Water Resources. Amendments to the SRWMO Watershed Management Plan must follow MN Rules 8410.0140. Amendments must adhere to the review process provided in MN Statutes 103B.231, subdivision 11, except when the proposed amendments are determined to be minor amendments. Minor amendments are defined in MN Rules 8410.0140, subp. 2. Changes not requiring an amendment are defined in MN Rules 8410.0140 subp 1a.

12 LOCAL WATER PLANS

12.1 REQUIREMENTS OVERVIEW

In order to satisfy Minnesota Rules Chapter 8410 Metropolitan Area Local Water Management, each SRWMO member community shall prepare a local water management plan in conformance with the goals, policies, and standards of this plan. The local water plan must be a chapter of each community's local comprehensive plan. Local water plans must be updated not more than two years before the local comprehensive plan is due (MN Rules 8410.0160 Subp 6). Local water plans for SRWMO communities are being updated in 2019 during finalization of the SRWMO 4th Generation Watershed Management Plan. The SRWMO will review and approve these local water plans to ensure they are consistent with the 4th Generation SRWMO Plan. If at any time the SRWMO discovers a significant inconsistency between a local water plan and the SRWMO plan, it may require an amendment of the local water plan to address it.

12.2 LOCAL WATER PLAN CONTENT REQUIREMENTS

Each local government's water resource management plan shall include elements required in Minnesota Statutes 103B.235, MN Rules 8410.0160 and this SRWMO Watershed Management Plan.

12.3 REVIEW PROCESS FOR LOCAL WATER PLANS

After consideration but before adoption by the governing body, each local unit shall submit its water management plan to the watershed management organization for review for consistency with the WMO Plan (see MN Statutes 103B.235 Subd. 3). Once a plan is received, the SRWMO shall have 60 days to review the document and to approve or reject it (in whole or in part) based on its compliance with the SRWMO's Watershed Management Plan. If the SRWMO fails to complete its review within 60 days, and if the local government has not agreed to an extension, the plan will be deemed approved. The plan must also be submitted to the Metropolitan Council, who has a 45 day review period that runs concurrent with the WMO review (see MN Statutes 103B.235 Subd. 3a). Local governments are encouraged to solicit informal SRWMO Board input and review before they submit their plans for formal review.

The SRWMO will primarily, but not exclusively, use the following as a checklist when reviewing draft local water plans:

- Goals consistent with those in the SRWMO Plan.
- Policies consistent with those in the SRWMO Plan.
- All member community actions listed in the SRWMO plan are addressed. Appendix C summarized required member community actions. This list should be submitted with the draft local water plan and include the page on which this item is found in the local water plan.
- A table comparing of SRWMO Stormwater and Wetland Standards to city/township regulatory controls. Any updates to regulatory controls needed for consistency with SRMWO Standards should be clearly identified in the table.

After the SRWMO approves a local water resource management plan, the local government shall adopt and implement the plan within 120 days and shall amend its official controls accordingly within 180 days.

If a local government should later wish to amend its plan, it must submit the proposed amendment to the SRWMO Board of Managers for review of consistency with the SRWMO's management plan. Changes should be clearly identified. The WMO must approve or disapprove of the amendment (in whole or in part) within 60 days of its submittal.

12.4 Adoption by Reference

Member communities may adopt the SRWMO plan or portion of it by reference, through a resolution, to satisfy the intent of local water management planning. The resolution must summarize tasks that the community is responsible to implement and be pre-approved by the SRWMO.

The SRWMO feels that member communities adopting the SRWMO Plan as their local water plan is reasonable because most of the actions demanded of communities in this plan must be formalized in other ways, such as through ordinances. For other tasks, such as storm water system maintenance, this plan contains a required schedule for completion. The SRWMO will ensure tasks are completed on schedule by requiring annual reporting from all communities. The SRWMO will create a reporting template see Appendix C) that includes all tasks required of communities in this plan.

13 ACRONYMS

ACD	Anoka Conservation District
BMP	Best Management Practice
CAC	Citizen Advisory Committee
DO	Dissolved Oxygen
BWSR	Board of Water and Soil Resources
MN DNR	Minnesota Department of Natural Resources
FEMA	Federal Emergency Management Agency
FIS	Flood Insurance Study
GIS	Geographical Information System
GPS	Global Positioning System
LGU	Local Government Unit
MPCA	Minnesota Pollution Control Agency
MDH	Minnesota Department of Health
MC	Metropolitan Council
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWL	Ordinary High Water Level
SRWMO	Sunrise River Watershed Management Organization
SWPPP	Storm Water Pollution Prevention Plan
TAC	Technical Advisory Committee
TMDL	Total Maximum Daily Load
WCA	Wetland Conservation Act
WMA	Wildlife Management Area
WMO	Watershed Management Organization
1W1P	One Watershed, One Plan

14 Maps

APPENDIX A:

INPUT RECEIVED DURING PLAN DEVELOPMENT

Overview of Stakeholder Input During Plan Development

a. Planning initiation notice and invitation for up-front comments
This notice was sent January 19, 2018 to SRWMO member communities, Metropolitan Council, State review agencies, Anoka County, and all adjacent entities with comprehensive local water management plans. Comment letters were received from the Anoka Conservation District, MN DNR, BWSR, Isanti County, Metropolitan Council.

b. Public officials tour of water resources, issues and projects
Tour of four stops each with presentations from one of the lake associations in the SRWMO. Invitees includes state and local elected officials. The planning kick-off meeting, where input was collected immediately followed the tour.

c. Planning kick-off meeting with public issues identification
A facilitated exercise guided participants as they provided input on priority issues and ranking those issues. Invitees included elected officials, lake associations and the public.

d. Online public survey
This survey to identify priority issues was done for the Lower St. Croix One Watershed One Plan. Because participants identified their county of residence we were able to filter 27 responses from just SRWMO residents.

e. SRWMO Board Evaluation of the 3rd Generation Watershed Management Plan
As a reflection and self-evaluation process, in July 2018 the SRWMO Board evaluated their implementation of their 3rd Generation Watershed Management Plan. This process identified strengths to continue doing and weaknesses upon which to improve.

f. Citizen advisory committee
Attendees of the kickoff event were used as the SRWMO's citizen advisory committee (CAC) for the purposes of watershed plan development. CAC members were invited to SRWMO planning meetings in fall 2018 and early winter 2019. The CAC received drafts of the watershed plan for review by email.

g. Technical advisory committee
The SRWMO Board compiled a list of member city staff, the Metropolitan Council and State review agency staff to serve as the technical advisory committee (TAC). The TAC met periodically to discuss draft priority issues, SRWMO financing, administration, and SRWMO wetland and Stormwater standards. Meeting dates included August 22 and December 19, 2018. The TAC also engaged dozens of emails, especially communications between the planner and city staff for development of SRWMO standard.

h. Public Hearing
A public hearing during final processes for plan approval will occur per MN Statutes.

Supporting information is provided on the following pages.

Sunrise River WMO
2241 – 221st Ave
Cedar, MN 55011

Summary of up-front watershed plan update comments for the SRWMO

For comment period ending March 30, 2018
Compiled by Jamie Schurbon

MN Board of Water and Soil Resources

- Provided "Metro Watershed Management Plan Update Guide."
- Summarizes applicable state statute and rules.
- Emphasizes strong board member involvement during planning.
- Notes that key elements of the new plan are identifying and prioritizing issues, measurable goals and a prioritized implementation plan.
- Stakeholder involvement, including forming advisory committees, is required during plan development.
- WMO should do a gaps analysis of activities and regulations that are done or not done throughout the watershed.
- A self-assessment of the WMO's past performance is required.
- Make use of the Sunrise River Watershed Restoration and Protection Strategies (WRAPS) and completed TMDLs for impaired waters.
- Activities in the plan must use positive action verbs like "can, shall and will" not passive verbs like "encourage, promote, support and recommend."
- Implementation plan should include activities the WMO will do plus a list of activities it will do contingent upon grant funding.

Metropolitan Council

- Provides the priorities in the Met Council's Water Resources Policy Plan, and requests that SRWMO plan include policies keep these regional strategies in mind.
- SRWMO must set quantifiable and measurable goals.
- Provides a list of 14 minimum topics the SRWMO should address, such as stormwater rate control, impact of land use practices, long term maintenance and capital improvement plan.

MN Pollution Control Agency

- Incorporate the Sunrise River Watershed Restoration and Protection Strategies (WRAPS).
- Quantitative accounting of pollutant reductions are wanted.

- Would like to see geographic areas prioritized for management actions and monitoring.

Isanti County

- Collaborative discussion about ditch maintenance and wetland restoration is suggested.
- Maintenance cleaning of ditches, especially those that have not been cleaned for many years, may result in increases in nutrient export to downstream lakes and rivers.
- Consider abandonment or no maintenance on headwaters ditches for water quality benefits.
- Wetland restoration is encouraged.
- Encourages educational outreach to landowners and elected officials.
- The region is an important groundwater recharge area for aquifers serving the metro.

Anoka Conservation District

- Suggests the following priority issues (in order of importance) for SRWMO planning. Suggested goals are provided for the SRWMO to consider.
    1. Impaired lakes and streams (Linwood, Martin and Typo lakes, W Branch Sunrise River)
    2. Near impairment lakes (Coon Lake)
    3. Natural communities and land use conversion
    4. Multi-county coordination
    5. Water monitoring
    6. Outreach and education
    7. Septic systems
    8. Regulatory consistency
    9. Road deicing salts

MN Department of Natural Resources

- Encourages managing holistically for a healthy watershed. SRWMO goals should be addressed as strategic, integrated activities, not independent prescriptions.
- Recommended activities include keeping water where it falls, vegetated buffers, reducing flow volumes, retain floodplain functions, land use planning, perennial vegetation, promote conservation practices and water use conservation.
- Draw from the Sunrise River Watershed Restoration and Protection Strategies (WRAPS).
- Recommends the SRWMO support land acquisition by the DNR to protect high quality natural resources.
- Recommends developing a model land use ordinance for all municipalities similar to East Bethel's "Significant Natural Environmental Areas" ordinance. It provides incentives and flexibility for land developers to deviate from some zoning standards in exchange for preserving and buffering high quality areas.
- Edits are provided to the current SRWMO plan's information about the Carlos Avery WMA.
- Focus on shoreline development for fisheries protection and improvement.
- Forested riparian areas are of high value and should be maintained, but that does not preclude management.

- Suggests the SRWMO play a stronger role in groundwater conservation.
- Suggests the SRWMO include actions to prevent the spread of aquatic invasive species.
- Would like to see riverbank stabilization using toe wood techniques.
- Suggests alternatives to perpetual ditch maintenance using natural channel design principles in priority areas. Benefits include water quality, habitat, and long term maintenance savings.
- The SRWMO area has exceptional amounts of high quality natural areas. Management and protection is recommended.
- Emerald ash borer is likely to impact SRWMO communities in the next 10 years. The SRWMO is on the border of a "generally infested area" and within a quarantine county. Communities should start planning. Large amounts of dead ash trees can be expected within about 6 years of an infestation being noticed.

SRWMO Public Officials Tour	**NOTES**	**Thurs, May 24, 2018** **4:20 PM to 6 PM** **Coon Lake Community Center 182 Forest Rd, Wyoming, MN 55092**

Attendees:

Name	Affiliation
Dan Fabian	MN Board of Water and Soil Resources staff
Jen Kostrzewski	Metropolitan Council staff
Jamie Schurbon	Anoka Conservation District staff
Eric Alms	MN Pollution Control Agency
Al Beck	Coon Lake Improvement District
Bruce McEachran	Coon Lake Improvement Association
Leon Mager	SRWMO board
Matt Downing	SRWMO board
Sandy Flaherty	SRWMO board
Paul Enestvedt	SRWMO board
Dan Babineau	SRWMO board
Tim Harrington	SRWMO Board/EB Council
Denny Peterson	SRWMO Board/Columbus Council
Tim Peterson	SRWMO Board/Linwood Township board
Bob Millerbernd	Linwood Township board
Ed Kramer	Linwood Township board
Mary Jo Truchon	Anoka Conservation District supervisor

Tour Speakers:

Name	Affiliation
Mike Smith	Martin Lakers Association
John Matilla	Martin Lakers Association
Al Beck	Coon Lake Improvement District Chair
Bruce McEachran	Coon Lake Improvement Association
Elizabeth Kiserow	Linwood Lake Assoc Fundraising Chair
Bob Minar	Linwood Lake Improvement Assoc
Harvey Glowaski	Linwood Lake Improvement Assoc
Steve Voss	Coon Lake project site owner, East Bethel Mayor
Jared Wagner	Anoka Conservation District staff
Jamie Schurbon	Anoka Conservation District staff

The purpose of this event was to connect local elected officials, local and state staff, and the SRWMO board with the people, projects and priorities of the SRWMO. The tour included visits to three large lakes where lake association members provided a brief presentation and recent water quality projects were seen and discussed. This tour was conducted immediately before the SRWMO Watershed Planning Kickoff and Public Input meeting. Nearly all tour attendees stayed for that meeting and provided valuable input on future SRWMO directions.

Tour stops included:

1. **Voss residence, Coon Lake**

At this location we were hosted by Steve and Lisa Voss who have installed three rain gardens treating a 4 acre drainage area of the neighborhood and are considering lakeshore landscaping with native plants. Steve is the Mayor of East Bethel and added insights into collaboration, incentive programs and the importance of Coon Lake.
During this tour stop Al Beck of the Coon Lake Improvement District and Bruce McEachran of the Coon Lake Improvement Association spoke about the roles of their groups in managing invasive species and improving the lake.

2. **Linwood Lake Public Access**

At this tour stop we were hosted by a group of Linwood Lake Association members. Lake association fundraising leader Elizabeth Kiserow spoke about their recent fundraising successes, collaboration with the SRWMO and ACD on an upcoming carp feasibility study, water monitoring and a vision for improving water quality. Anoka Conservation District staff Jared Wagner provided a dockside demonstration of lake water quality monitoring techniques.

3. **Martin Lake Public Access**

The Martin Lake Association hosted this tour stop. We viewed a carp barrier and discussed water quality improvement efforts including stormwater treatment, carp management and lakeshore restorations. John Matilla and Mike Smith from the lake association discussed their fundraising efforts and their collaboration on these projects.

Notes prepared by Jamie Schurbon

SRWMO Watershed Planning Kickoff and Public Input Meeting	**NOTES**	**Thurs, May 24, 2018** **6:30 PM to 8 PM** **Coon Lake Community Center 182 Forest Rd, Wyoming, MN 55092**

Attendees:

Name	Affiliation	Name	Affiliation
Dan Fabian	MN Board of Water and Soil Resources staff	Russ Wyandt	Linwood Lake Improvement Assoc.
Jen Kostrzewski	Metropolitan Council staff	Betheny Wyandt	Linwood Lake Improvement Assoc.
Eric Alms	MN Pollution Control Agency	Gloria Heinz	Linwood Lake Improvement Assoc.
Al Beck	Coon Lake Improvement District	Robert Nygaard	Linwood Lake Improvement Assoc.
Leon Mager	SRWMO board	Corinne Nygren	Linwood Lake Improvement Assoc.
Matt Downing	SRWMO board	Paul Nygren	Linwood Lake Improvement Assoc.
Sandy Flaherty	SRWMO board	Mary Jo Truchon	Anoka Conservation District supervisor
Paul Enestvedt	SRWMO board	Sharon LeMay	Anoka Conservation District supervisor
Dan Babineau	SRWMO board	Bob Millerbernd	Linwood Township board
Tim Harrington	SRWMO Board/EB Council	Ed Kramer	Linwood Township board
Aaron Diehl	Anoka Conservation District staff	Jamie Schurbon	Anoka Conservation District staff

The purpose of this meeting was to kick-off an update to the Sunrise River Watershed Management Organization (SRWMO) Watershed Management Plan, and get public input on priorities. The meeting was immediately preceded by a public officials' bus tour. The meeting began with a brief presentation about the SRWMO, current priorities and recent projects. Thereafter, a poster exercise was used to get input on priorities from all attendees. The meeting concluded with an open discussion of other watershed topics. All of this input will be considered by the SRWMO throughout preparation of its Watershed Management Plan update, and participants will be called upon periodically during the planning process as a Citizen Advisory Committee.

Meeting components

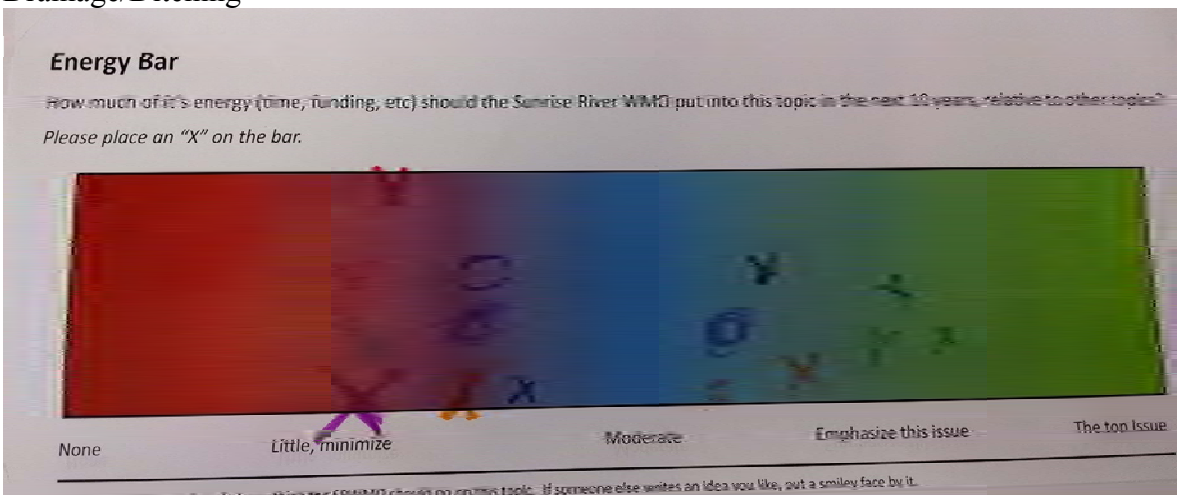
1. **Sunrise River WMO Presentation**
   Jamie Schurbon informed attendees about the SRWMO and its recent projects.
2. **Poster activity**
   Participants visited posters, each of which contained a priority topic that had been previously selected by the SRWMO board. On the poster participants ranked the amount of energy (time, funds, etc) that the SRWMO should put into that topic. Then, they listed things they believe the SRWMO should do on that topic over the next 10 years. Blank posters were available for adding additional topics. SRWMO board members did not participate and state review agency staff included their agency acronym with any comments so they could be separated from constituent input. Results are below.
3. **Open discussion**
   The group engaged in open discussion about watershed projects. Discussion focused on management of carp, local fundraising to match grants, outreach and social change and other topics.

At the conclusion, Schurbon described that the SRWMO would go through the input gathered and incorporate it into their planning process. Meeting attendees are considered part of the SRWMO's Citizen Advisory Committee for watershed planning unless they opt out (none did). Member city or state review agency staff will comprise the SRWMO's Technical Advisory Committee.

Poster activity topics and input received

Notes:
"x3" (or similar notations) following a comment indicates that one person wrote that comment and two people indicated support by adding a smiley face to that comment."
On the energy bar, constituents placed and "X" while state review agency staff placed an "O."

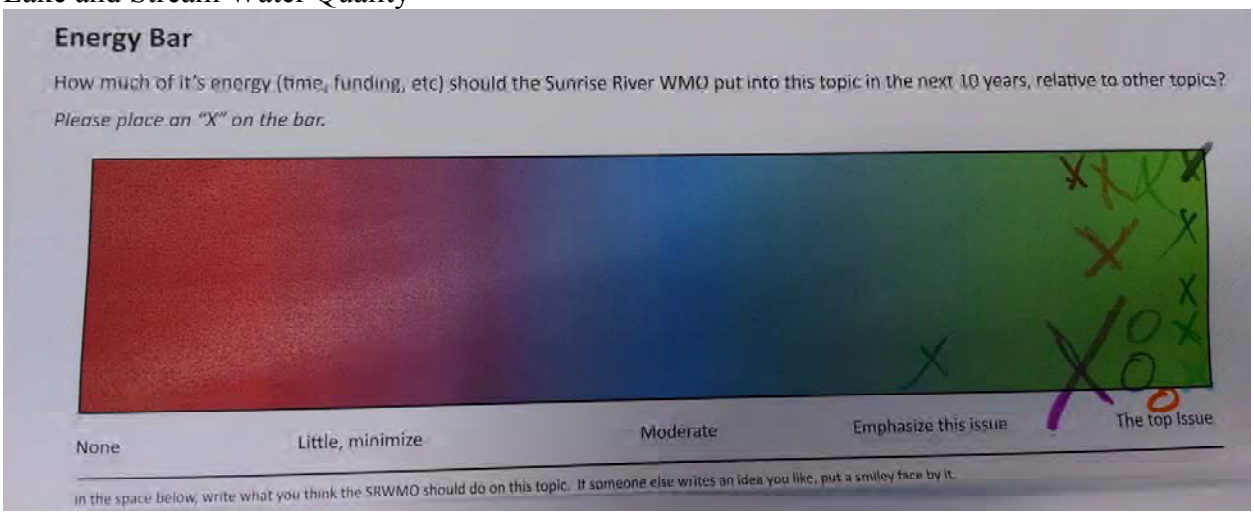
- Drainage/Ditching



  - Use more plant based systems for managing storm water (x3).
  - Shoreline drainage control (x2).
  - Sediment ponds would be a big help (x2).
  - Control water flow.
  - Need to filter for lakes that rely on them.

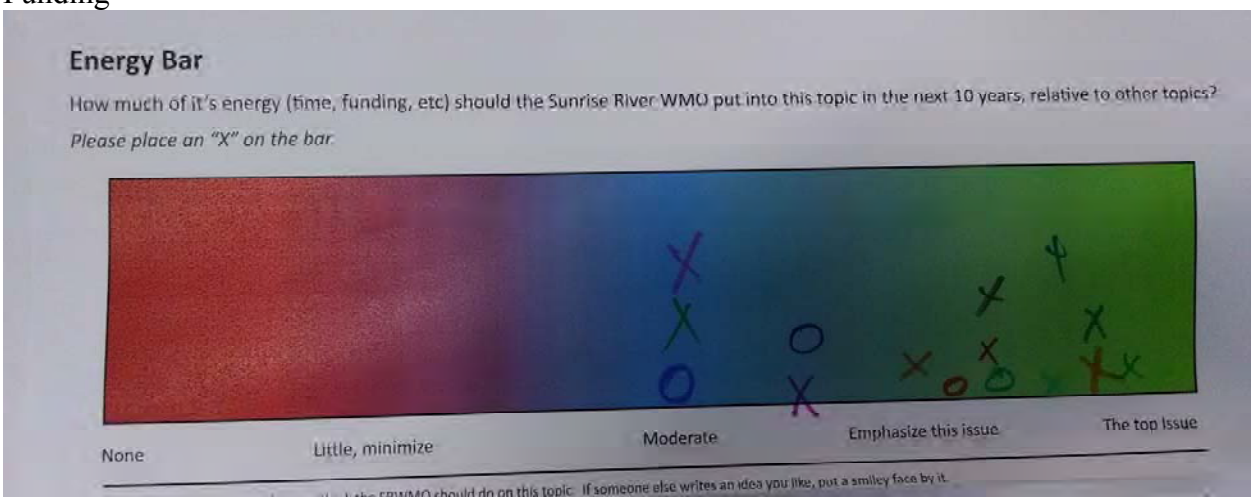
- BWSR – Figure out function/purpose and who is responsible for maintaining them. Also, do they have positive or negative impact on the resources?
- Met Council - Flood control is an expected responsibility of WMOs and is a priority for the council.

- Lake and Stream Water Quality



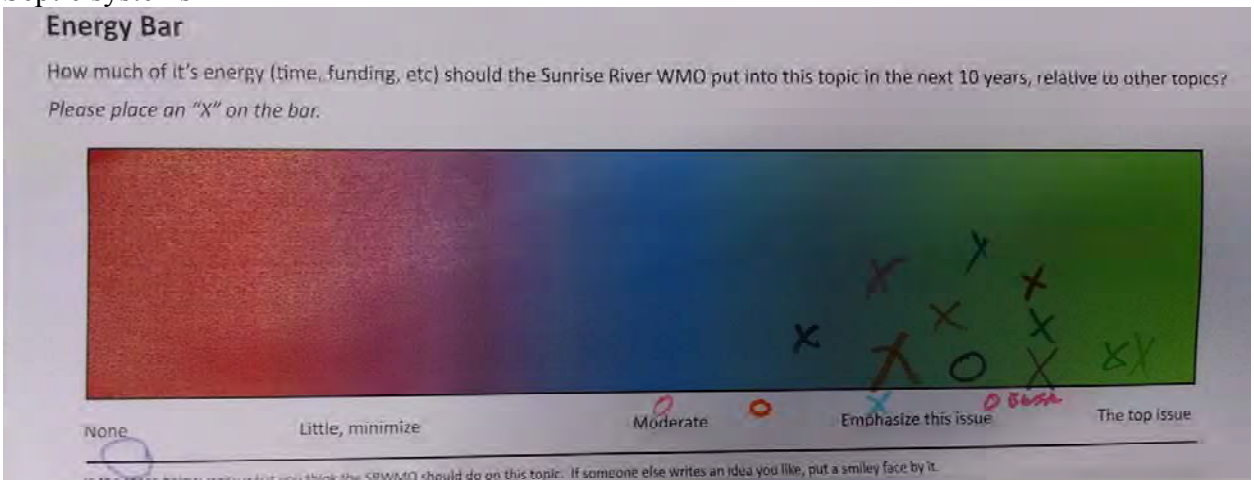
- Biodiversity needs excellent water quality to survive (x6).
- If the water quality is good, it will reduce the other issues such as invasive species, clarity, etc (x5).
- Carp monitoring study has been informative. Do commercial carp harvest (more bang for buck). Look to extend current three year study on Martin Lake.
- Have events so people can enjoy the high quality recreation possible with high water quality.
- If water is good all others will be good i.e. all septics working.
- This stinks.
- BWSR - Important for property values also and enjoyment of property and resources.

- Funding



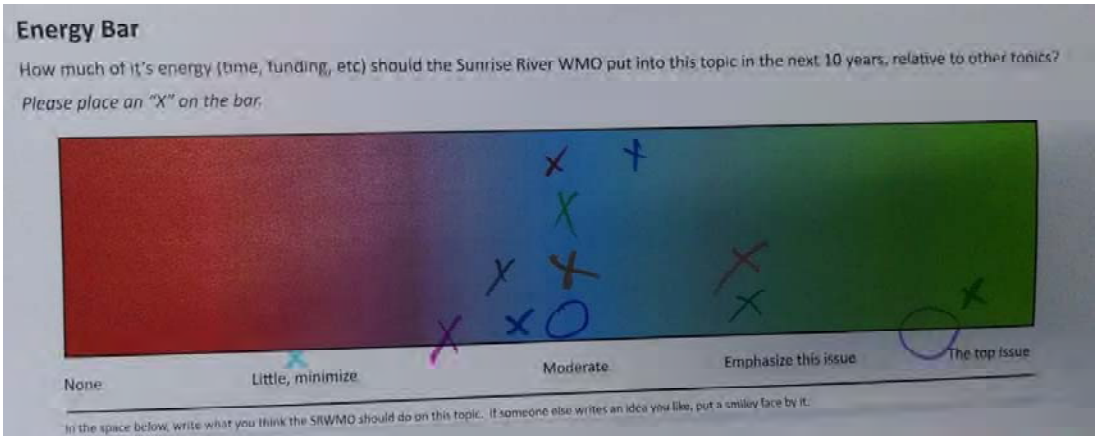
- Identify funding capacity. Factor in all the public non-tax-paying lands. Also high value resources. WMO is responsible for and limits on local funds. Also average income. (x5 plus BWSR and Met Councils supported this comment).
- Funding and prioritizing projects is a huge part of this process. We encourage optimizing this by finding partnerships and outreach emc(?) (x2).
- Key in any projects. ID sources (lake assoc, etc).
- We value what we pay for – have "fun"raisers. Also help out with grant writing efforts when "real people" are asking – grants will come!
- Government exists to help its citizens. We ought to demand funding and work towards securing it.
- Consistency in funding sources can be helpful for long term planning projects.
- Community input.

- Septic systems

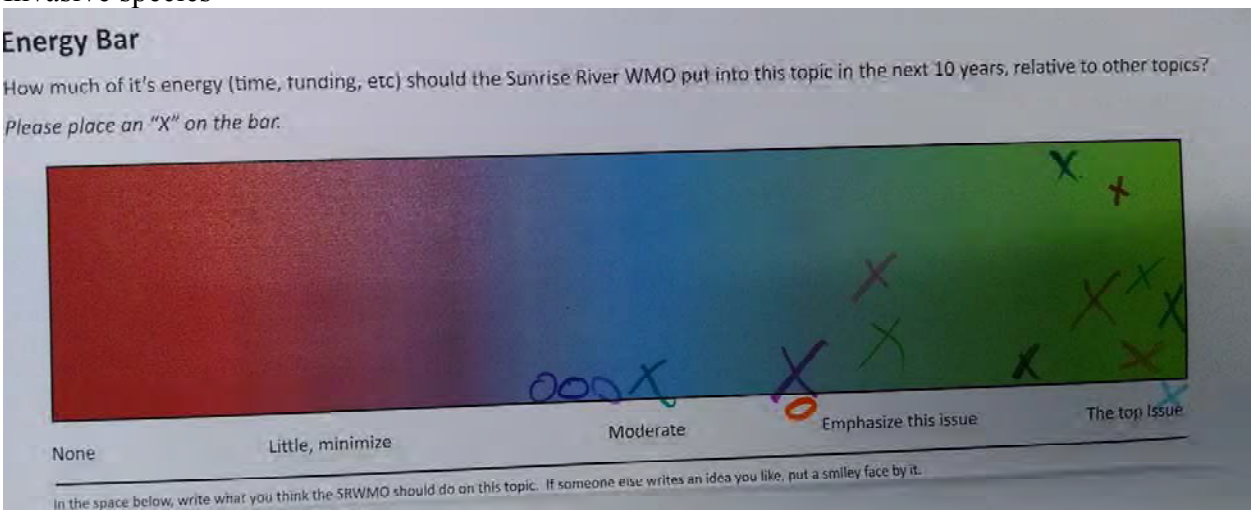


- MPCA - Ensuring septic systems are compliant and operating properly is an effective means of reducing leaching of phosphorus and bacterian, especially if they are located proximally to lakeshores (x5).
- More monitoring of problem systems (x4).
- Work with townships and city officials to ensure they are <u>enforcing</u> the regulations and compliance. BE the liaison for locating grants (x3).
- Add Martin Lake for grant septic help (x3).
- BWSR – Should at least figure out if it is a major issue (x2).
- More help for people unable to afford fixes (x2).
- Low land cabin create central septic system.
- 10% of homes polluting.

- Groundwater



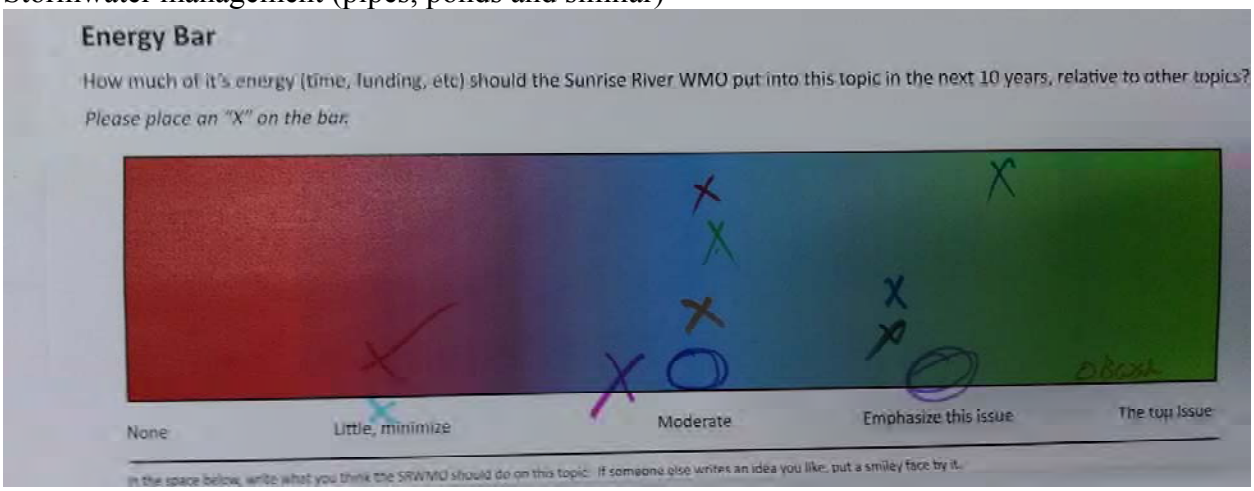
  - I am unaware of the issues facing groundwater (recharge, contamination, etc) in the Sunrise River watershed (x5).
  - Important to allow recharge of aquifer, maintain quality so is safe to drink (x3).
  - Cannot do much with improvement.
  - Protect wetlands from being used as stormwater "dumps." All water is connected. Outreach needed.
  - Met Council - Groundwater/surface water interaction is important to Met Council.
- Invasive species



  - MPCA – Carp management can have an impact on reducing internal loading of phosphorus and water quality can improve (x3).
  - Immediate attention (x2).
  - Bigger fines for people who fail to comply (x2).
  - This has a direct effect on aquatic life (x2).
  - Public access check/monitoring/testing currently going. Better to head off than try to correct (x2).
  - Need continued monitoring to catch invasions quickly when may be treatable.
  - I think there are other agencies that focus on aquatic invasive species, so I'm not certain this is a role of the SRWMO to offer funding on a regular basis or increase funding available.

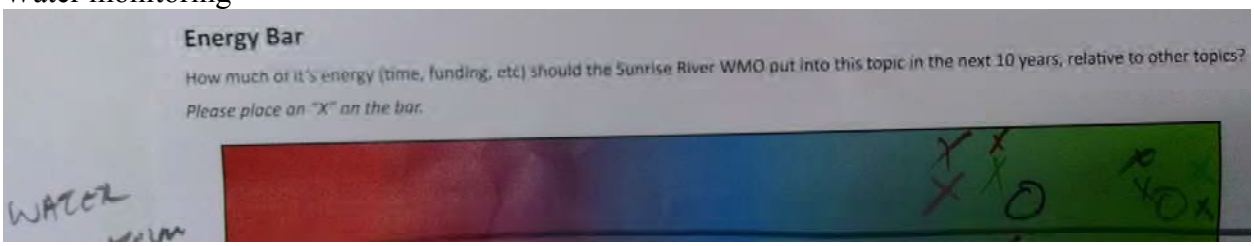
- Outreach with lake groups and school kids, 4-H, etc.
- BWSR and Met Council – Tie to water quality impacts.

- Stormwater management (pipes, ponds and similar)



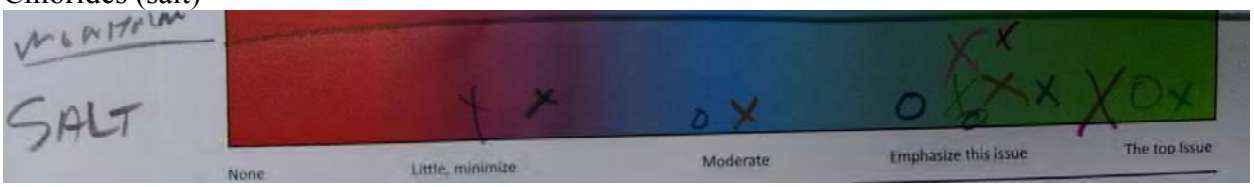
  - BWSR – Determine if existing rules are sufficient to prevent additional problems. Also need effective operations and maintenance. (x4)
  - MPCA - Although the level of impervious surfaces may not be as concentrated as other metro area watersheds, stormwater can be a significant source of phosphorus loading (x3).
  - Rain gardens seem to be helping (x3).
  - Believe rain gardens are scheduled on Martin Lake.
  - Too hard for people to get involved.
  - Use more rain gardens and lakeshore plantings for stormwater and wildlife.
  - Met Council – The next funding cycle may allow the Met Council to offer stormwater grants to WMO's to help put projects in the ground.

- Water monitoring

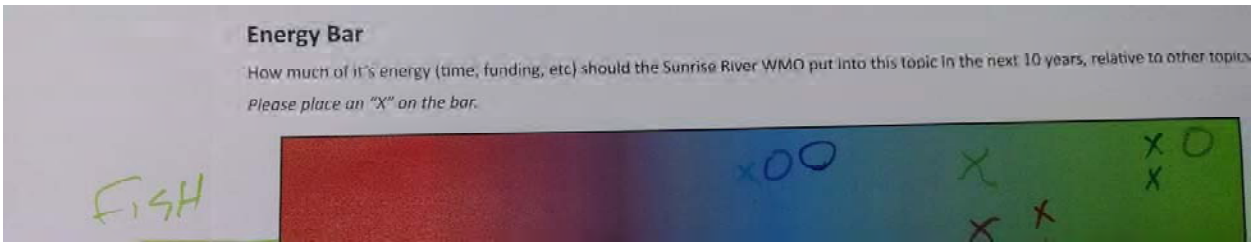


  - Boot Lake effect on downstream (Linwood Lake) (x5).
  - Necessary to track progress (or lack thereof) (x2).
  - The more we know the better we are (x2).
  - Monitoring is an effective way of understanding how implementation of BMPs are affecting water quality. Beyond a data/science driven approach, it also tells a story for stakeholders (x2).
  - Already much as been done – but always need more help.
  - BWSR – Use to target projects.
  - Water quality high.
  - Met Council - Water quality is a huge part of who we are in the metro area.

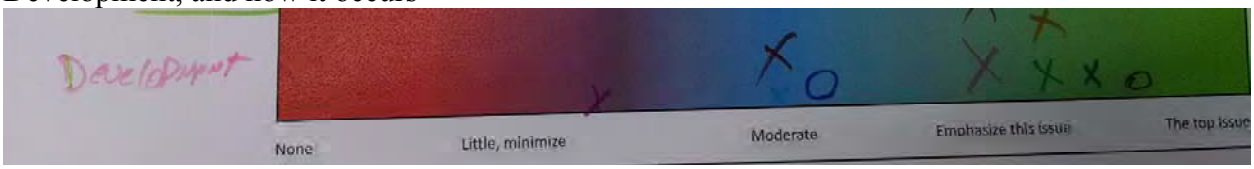
- Chlorides (salt)



  - As time goes by salt will impact our lakes more and more (x4).
  - Met Council – This is a huge water quality for the region (x2).
  - Cities and townships should try different ways to clear roads.
  - Huge issue – salt never leaves the environment once deposited.
  - BWSR – Also consider water softeners if it is an issue. Do you monitor for it?
  - MCPA - A priority initiative for the MPCA is chloride reduction as a statewide issue. Review of the Twin Cities Chloride Management Plan and using the winter maintenance assessment tools available on the agency website are good places to start.
  - A number of attendees were not familiar with this issue.
- Fisheries

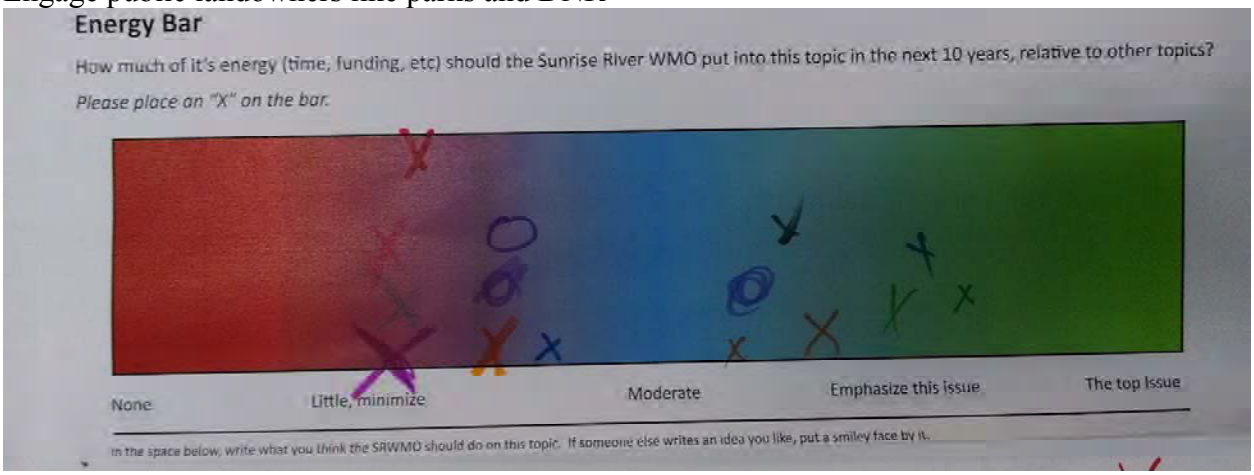


  - Met Council - Fisheries are important when tied to water quality (x3).
  - More fish in a lake means people will take pride in their lake (x2).
  - Also include all forms of wildlife (x2).
- Development, and how it occurs



  - Will be progressively more important as population increases – controls are needed, we should buffer important resources (x3).
  - New development needs to be sustainable (x2).
  - Cities must plan better for a good quality of life for us. Start with citizen committees, there will be "buy in."
  - Not much we can do – much is controlled by Met Council.
  - Met Council – The Met Council is the regional agency that helps guide development in the metro.
  - BWSR – Imp of exist rules, is it effective?

- Engage public landowners like parks and DNR



  - Note: this topic was added per constituent request at the public input meeting. They noted that much of Linwood Lakeshore and other waters are managed by the DNR or Anoka County Parks, and future management will affect these lakes.
  - These should be involved at the very <u>start</u> of any plans (x4).
  - Anoka County would be a natural partner for lakes and trails, invite them! (x4).
  - Met Council - Partnerships help share the land at watershed level issues (x3).
  - BWSR – Also include farm organization, non-governmental organizations, in general implement partnerships for implementation (x3).
- Other
  - Maintain lake levels by repairing dams (x4).
  - On Linwood Lake – dam is in disrepair. Effects water levels. DNR denies this is an issue (x2).
  - Educate lakeshore owner on buffers at lake level shoreline.
  - Provide pet waste disposal options in parks and along trails.

Other Discussion Points

Substantial discussion occurred about the need for carp management to improve water quality, particularly at Martin and Linwood Lakes. The inability to get the permitted area commercial fisherman to remove these fish, even when paid to do so, is a major obstacle.

Notes prepared by Aaron Diehl and Jamie Schurbon

Online Survey to Identify Priority Issues	**SURVEY RESULTS**	**Thurs, May 24, 2018** **6:30 PM to 8 PM** **Coon Lake Community Center 182 Forest Rd, Wyoming, MN 55092**

An online survey for residents was created and promoted in summer 2018 for the Lower St. Croix One Watershed, One Plan (1W1P) process which included the Sunrise River WMO area. While the survey was designed for the broader geography of 1W1P, the responses did also inform the SRWMO planning process. Respondents were asked their county of residence, allowing us to examine only the 27 responses coming from SRWMO residents for some questions. Lake associations distributing this survey are responsible for many of the responses. Survey questions and responses we know are from SRWMO residents included:

Number of responses by county:

Anoka-27	Chisago-15	Isanti-5
Pine-0	Washington-22	Other-2

1. **Please share 3-5 local water resources that are most important to you.** *(answers shown are for all respondents; unable to separate those from only the SRWMO)*

Answers referring to resources outside the SRWMO

Lakes

Big Marine Lake	Bone Lake (12)	Center Lake (2)
Chisago Lake (2)	Comfort Lake (2)	Elin Lake
Fannie Lake	Fish Lake	Florence Lake
Forest Lake (2)	Green Lake	Long Lake–Grandy
Moody Lake (6)	Otter Lake	Paul's Lake
Rush Lake (2)	Second Lake	Skogman Lake (2)
Square Lake (3)	Third Lake	Twin Lakes
White Bear Lake		

Rivers/Streams

Brown's Creek	Cedar Creek	Kettle River
St. Croix tributaries	Mississippi River	Namekagon River
N Branch Sunrise River (3)	Rum River (5)	Valley Creek

Answers referring to resources outside the SRWMO

Lakes

Coon Lake (4)	Island Lake	Linwood Lake (7)
Martin Lake (21)	Typo Lake (7)	

Rivers/Streams

Data Creek (2)	Sunrise River (13)	Typo Creek (5)

Other

Drinking water (4)	Groundwater (8)	Wetlands (2)
Wildlife habitat		

2. **Please share 3-5 water issues in the Lower St. Croix watershed that you think are most important to address.** *(only answers from the SRWMO are shown)*

AIS (6)	Algae (6)	Carp (6)
Water quality (5)	Septic systems (3)	Nutrients (3)
Fertilizer (2)	Water clarity (2)	Shoreline erosion
Waterfowl/hunting habitat (2)	Contaminants	Lake levels
Education	Litter	Cattails
Copper sulfate	Street runoff	Pollution

3. **What is the most important thing regional partners should do to protect water in the Lower St. Croix Watershed?** *(only answers from the SRWMO are shown)*
   Educate and engage the public (8)
   Work together, implement watershed plan, get state funding, set clear goals and measure progress (3)
   Control water pollution (4)
   Reduce runoff / nutrient pollution (3)
   Monitor / control /prevent spread of AIS (3)
   Control carp in lakes (2)

4. **What is one action YOU have taken to protect water in your community?** *(only answers from the SRWMO are shown)*
   Restored / maintained native shoreline or modified landscaping practices (9)
   Don't dump / pick up litter / leave no trace (3)
   Participate in lake association or watershed citizen's advisory committee (2)
   Participate in community events (carp harvest, lake clean-up) (2)
   Helped with AIS monitoring (2)
   Follow rules for shoreline development and boat cleaning (1)
   No longer use 2-cycle outboard (1)

5. **What best describes your home or property**? *(answers shown are for all respondents; unable to separate those from only the SRWMO)*
   Lakeshore, streambank or riverfont property (43)
   Residential lot in the country (15)
   Residential lot in town (11)
   Large acreage, non-agricultural (5)
   Apartment or condo (1)
   Agricultural (1)

6. **Are you affiliated with the following organizations?** *(answers shown are for all respondents; unable to separate those from only the SRWMO)*
   Local lake association (31)
   City or county government (14)
   Non-profit or community environmental group (12)
   Soil and Water Conservation District or Watershed Management Organization (9)
   Hunting or fishing group (6)
   St. Croix River Association (3)
   State or federal agency administering land, water, environment or ag programs (2)

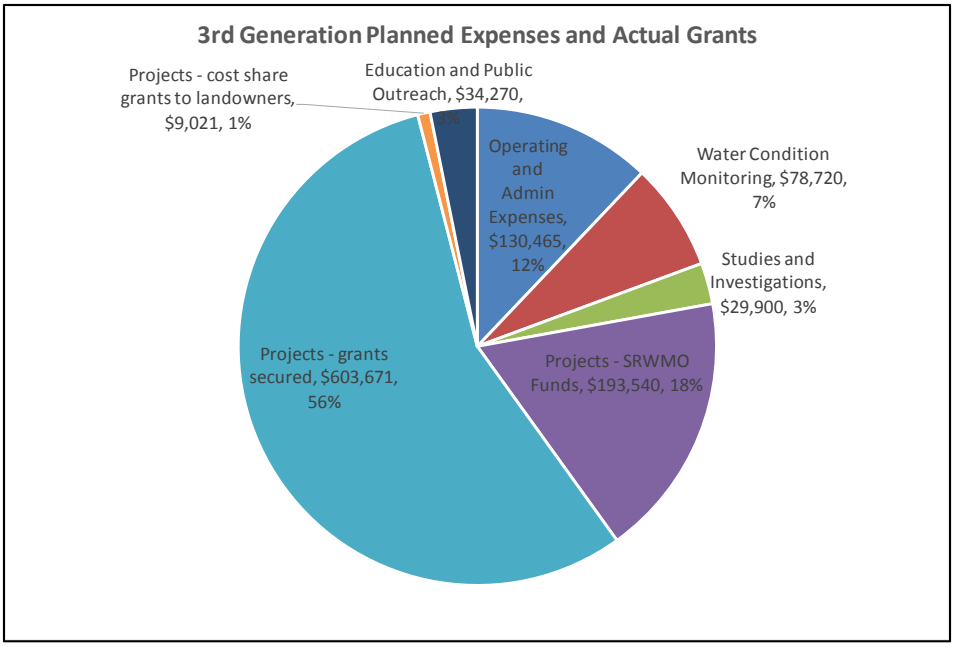
SRWMO Board Evaluation of the 3rd Generation Watershed Management Plan

In July 2018 the SRWMO Board completed an exercise to evaluate implementation of its 3rd Generation Watershed Management Plan. This process focused upon identifying strengths to keep doing and weaknesses upon which to improve. Below are two questionnaires completed during this process. Italics text is a summary of responses from SRWMO Board members. Each ✓ indicates one board member response.

1. **What parts of the plan have you used** at least once (circle all that apply):
    a. Natural resources inventory and assessment ✓✓
    b. Assessment of problems ✓✓
    c. Goals, policies and actions ✓✓✓
    d. Implementation plan (projects, timelines and budgets) ✓✓
    e. Impact on local government
    f. Plan amendment process and local water plan requirements

2. **Was the money spent** on each of the following too much, too little, or about right?

Spending Category	Too Little Spent	About Right	Too Much Spent
Projects	✓	✓✓✓✓✓	
Studies and investigations	✓	✓✓✓✓✓	
Water condition monitoring	✓	✓✓✓✓✓	
Operating and Admin		✓✓✓✓✓	✓
Education and outreach	✓	✓✓✓✓✓	
Projects - Cost share grants to landowners, etc	✓✓✓✓✓	✓	
How did we do securing grants?			
	Not good enough, more effort needed	**About right**	**Too much**
		✓✓✓✓✓	



3. **Did the SRWMO accomplish these goals** set in the current plan? (Place and "X" in the applicable box)

Goal	No, or minimal, progress	Made Progress	Accomp-lished	Uncertain	In the future, is more work needed?	
					Yes	No
20% phosphorus reduction watershed wide (long term goal)	✓	✓✓		✓✓	✓	
Martin and Typo Lake water quality improvement	✓✓✓✓	✓✓		✓	✓✓ ✓	
Maintain good water quality where it exists (Coon, Fawn Lakes, for example)		✓✓✓	✓✓	✓	✓✓	
Citizen monitoring of all lakes		✓✓✓	✓	✓✓		
Partner with lake associations and lakeshore residents		✓✓		✓	✓✓	
All septic systems compliant	✓✓✓✓	✓✓			✓✓	
Everyone in the SRWMO receives and annual watershed education message		✓✓	✓✓	✓✓	✓	
Residents understand what the WMO is and does	✓	✓✓✓✓			✓✓	
No new infestations of invasive plants in SRWMO lakes	✓✓	✓✓	✓	✓	✓	
Existing aquatic invasive plant infestations controlled	✓✓✓	✓	✓	✓	✓✓	

Aquatic native plants viewed as beneficial		✓✓✓		✓✓	✓✓	

4. What about this plan was a flop that we should <u>abandon</u>?

5. What about this plan was a flop that we should <u>fix</u>?
   - *Administrative expenses*

6. What about this plans was notably good that we should <u>keep</u>?
   - *Monitoring and reporting*
   - *Everything should be kept on the current plans.*

Other Discussion:

- *The plan length is about right.*
- *Expenditures to various expense categories were about right but more project cost share grants to landowners are desired, particularly for shoreline restorations.*
- *More outreach and education is needed and it should be on a more personal level to be effective.*
- *Outreach should be structured to promote project installations.*
- *More DNR enforcement of illegal shoreline alterations is needed.*
- *Septic system failures continue to be a problem. Detection of problem systems and offering assistance to fix them is important.*

QUESTIONAIRE

Your Vision for the Next SRWMO Plan

Brown text is a summary of responses from SRWMO Board members in July 2018. Each ✓ indicates one board member response.

1. **Length of the next plan** should be:
   - ✓✓ Shorter than the current plan
   - ✓✓✓✓ About the same
   - Longer to add detail
   - Any length, as long as it includes 10 or less key pages with project lists, budgets, and the other stuff we really use.
   - Other:

2. **Scope of the plan** should be:
   - ✓✓ Broad - Set holistic goals for the WMO, cities and others for the long term. We may have many goals.
   - Narrow - Focus on short term tasks the WMO will do. We should have few goals and focus.
   - ✓✓✓✓Medium - A mix of broad long term goals and short term tasks. Focus mostly on the WMO and member cities.
   - Other:

3. **The amount of work**, compared to the current watershed plan, should:
   - Shrink.
   - ✓ Stay the same.
   - ✓✓✓ Increase or spread into new areas to address unmet needs.
   - ✓✓✓ Depends. We need to assess the need first.
   - Other:

4. **Expenditures**, compared to the current watershed plan, should:
   - Shrink.
   - ✓ Stay the same.
   - ✓✓✓ Increase.
   - ✓✓✓✓ Depends. We need to assess the need first.
   - Other:

5. **The biggest challenge(s) for this WMO** in the next 10 years will be (circle as many as you like):
   - ✓✓ Difficult to fix water resources issues
   - Water resources projects originating beyond our jurisdictional area
   - ✓✓✓✓ Funding
   - ✓ Unsupportive member cities or councils
   - Disagreements within the board
   - ✓ Board turnover
   - ✓ Lack of staff or contracted help

- ☐ ✓✓✓✓ Lack of community awareness or support of the WMO and its projects
- ☐ ✓✓ Lack of partners, especially those willing to help fund projects
- ☐ ✓ Paralysis by analysis – too many plans and studies, not enough projects
- ☐ Other:

6. **New things for the WMO in the next 10 years** should be (check all that you like):
   - ☐ ✓✓✓✓ Working with upstream and downstream entities, including participating in regional partnerships like One Watershed, One Plan
   - ☐ ✓✓✓ Groundwater work
   - ☐ ✓ Ditch management and cleaning
   - ☐ ✓ Regulation and permitting by the WMO
   - ☐ ✓✓✓ Regulation and permitting through cities (i.e. provide minimum standards for city ordinances)
   - ☐ ✓✓ More project money due to Watershed Based Funding
   - ☐ Other:

7. **What do we need to do for your city to be supportive** of the WMO Plan?
   - *Keep $$ low.*
   - *Get resident support.*
   - *High value for relatively low cost.*
   - *Watershed Based Funding is an incentive for strong city participation. City projects are eligible for this funding only if they are in the SRWMO Plan.*
   - *Planning updates can be given to city councils and staff at planning milestones such as priority setting. An update to them about the May 24 planning kickoff event may be in order. Having city staff help give these presentations may be useful.*
   - *City staff should serve on the planning technical advisory committee. That committee may want to meet relatively soon to discuss Watershed Based Funding implications for planning, comparisons of city water-related ordinances, and local water plan updates that are currently ongoing.*

Other discussion at 4/12/2018 meeting

- *The new watershed plan should be reviewed and updated/amended every two years during its life.*
- *A desire for more cost share grants that encourage residents to do water quality projects. This may be a way to get more work done with minimal additional expenditure.*
- *Increased community awareness of the SRWMO and water quality is needed.*

APPENDIX B:

SRWMO REGULATORY STANDARDS

Sunrise River Watershed Management Organization

Regulatory Standards

Administration

The SRWMO does not have a permitting program. These standards will be administered by the member communities of the SRWMO. Each community must adopt standards at least as protective as, and consistent with, the SRWMO standards in their ordinances, and implement them.

Stormwater

Goal: Maintain water quality and promote infiltration in sandy soils.

Standards:

- **Applicability:** These standards apply to:
  - Subdivision or development of three or more lots OR
  - >1 ac disturbance creating new impervious surfaces.
  - Issuance of new building permits for individual lots in the shoreland zone – in this instance the only applicable standard is that impervious surfaces on the lot may not exceed 25%.
- **Volume control:** Retain 1" from impervious surfaces, preferably by infiltration.
- **Pollutant control:** Post-development must equal pre-development for total phosphorus and suspended solids for the 2-, 10- and 100-year 24-hour storm events.
- **Rate control:** Post-development rates must equal pre-development for the 2-, 10- and 100-year 24-hour storm events.
- **What to do if infiltration is difficult or not advised:** Volume retention, with infiltration and minimizing runoff-generating surfaces as the preferred techniques, must be used to the maximum extent practical to achieve the SRWMO standards. Maximum extent practical shall be determined by the local permitting authority (city or township). Infiltration is prohibited in the circumstances described in the MN Stormwater Manual Design Criteria for Infiltration, including runoff from fueling stations, in the emergency response area of a drinking water supply management area and others.
- **Exempt activities:** road mill and overlay, maintenance and paving of existing gravel roads, agricultural production not creating impervious surfaces, and emergency activities necessary for protection of life, property or natural resources.
- **Special considerations in the shoreland zone:** Impervious surfaces must not exceed 25% of lot area.
- **Pre-treatment** is required before water enters an infiltration practice.

- **Must utilize Atlas 14** precip data when estimating stormwater rates, volumes and pollutants.
- **A legally binding and enforceable maintenance plan** clarifying responsible parties is required for all stormwater infiltration or retention practices.

Wetlands

Goals:

- Filter runoff through a vegetated buffer.
- Prevent disturbance within the wetland.

Standards:

- **Applicability:** These standards apply to:
  - Subdivision or development of three or more lots OR
  - >1 ac disturbance creating new impervious surfaces.
- Buffer width: A minimum 16.5 ft perennially vegetated buffer is required at the wetland boundary.
- **Protections during construction:** The delineated wetland, but not necessarily the buffer area, must be protected during construction with protected with appropriate perimeter erosion control.
- **Buffer seeding:** Any areas where vegetation is removed in the buffer area during construction must be reseeded with a native seed mix, and the applicant is responsible for maintenance or reseeding for 3 years through a legally enforceable agreement with the city/township. These requirements do not apply if the buffer area vegetation is not disturbed during construction.
- **Buffer vegetation:** Buffer shall be a perennial, unmowed vegetation creating continuous cover. Existing vegetation may be used.
- **Buffer within an easement:** The buffer shall be within a drainage and utility easement with the community's restrictions on structures and other activities in a drainage and utility easement.
- **Stormwater discharge to wetlands:** Discharged stormwater must be treated to SRWMO stormwater standards.
- **Water level bounce:** Allowable water level bounce in wetlands must follow MPCA guidance document - *Stormwater and Wetlands: Planning and Evaluation Guidelines for Addressing Potential Impacts of Urban Stormwater and Snowmelt Runoff on Wetlands*," Minnesota Pollution Control Agency 1997, or subsequent updates.
- **Variances:** Buffer variances may be granted in any of the following conditions:
  - Small wetlands where the entire wetland area is less than or equal to the area of wetland impact allowed without replacement as *de minimis* under the MN Wetland Conservation Act. It is acceptable to have no buffers in these cases.

- Part of the required buffer is outside of the wetland's watershed. Due to topography near the wetland, runoff flows away from and never enters the wetland through surface flows. Variances should only be for that portion of the buffer that would be outside of the wetland's watershed.
- If drainage is redirected to an area where a buffer is feasible.
- If the site is not generating stormwater or is using storm water minimizing techniques that also provide habitat value such as rain gardens, vegetated swales, and other Best Management Practices (BMP's) replace the functions of buffers.
- If the applicant is protecting additional upland, beyond that required by other ordinances or control measures, to connect existing wildlife habitat.
- Undue hardship, as defined in MN Statutes 462.357, subd. 6, subpart 2.
- Others as determined by the permitting authority.
- Roads and other linear projects, except those created as part of new residential or commercial developments.

Subsurface Sewage Treatment Systems

Short term goal: Have consistent triggers for periodic septic system inspections that result in non-compliant systems getting fixed.

Long term goals: If grant funds can be secured,

- Expand triggers for septic system inspections to include property transfer in all SRWMO communities. East Bethel and Columbus have this, Linwood and Ham Lake do not. The SRWMO will pursue grants for development and update of these ordinances, and setting up a process to implement it.
- Provide septic system inspections of all parcels throughout the shoreland district.
- Install community systems where it is more economical than individual fixes.
- Increase grant funds to homeowners for fixing failing septic systems. Priority area is the shoreland zone.

Standards:

- Building permit applications to add a bedroom or square footage shall follow the MN Rules 7080 requirement for a review of the onsite sewage treatment system's design to determine if additional flow can be accommodated.
- Communities must track septic system pumping at each residence or business.
- Communities must send maintenance reminders for residences where the community has no record of maintenance in the last three years.

APPENDIX C:

MEMBER COMMUNITIES' RESPONSIBLITIES SUMMARY

Member Community Responsibilities Summary

This list includes all member community actions in the SRWMO 4th Generation Watershed Management Plan. It serves as a checklist for communities when they prepare local water management plans. It must be submitted to the SRWMO with draft local water management plans, including populating the three right columns. Notes may be added within the "action" column if appropriate.

The SRWMO recognizes that not all items in the action list are appropriate to put in a local water plan. Some are simply routine tasks the city is committed to doing. Those can be indicated in the table below by checking the appropriate column. Communities will need to report completion of all items in annual reporting to the SRWMO using this checklist.

Ref #	Member Community Action	In Local Water Plan	Not in Plan, but city will complete as routine business	Page/section in Local Water Plan, if applicable
		Check ✓ appropriate box		
MC1	**Linwood Township will continue to own and maintain the Martin and Typo Lake carp barriers**, including maintenance cleaning and installing/removing the screens seasonally.			
MC 18	**East Bethel's Finance Director will continue to provide SRWMO assistance** including preparing checks, keeping a financial ledger, invoicing and third-party oversight.			
MC2	**Provide projects for State Watershed Based Funding consideration** to the SRWMO. This non-competitive grant is available to projects in the WMO plan with water quality benefits that do not supplant existing funding.			
MC3	**Provide time annually during a city council or town board work session** to hear a SRWMO update.			
MC4	**Annually report to the SRWMO** accomplishments towards work in this Plan. The reports provide assurance to the SRWMO that planned work is getting done and will be used in SRWMO required reporting to the State.			
MC5	**Provide a link on the community's website to the SRWMO website**.			
MC6	**Provide space in community newsletters for ¼ page minimum SRWMO articles**.			
MC7 MC12 MC16 MC23	**Implement SRWMO septic system and stormwater standards** (Appendix B of SRWMO Plan).			
MC8	**Adopt and enforce a septic system ordinance consistent MN Rules** 7080-7082 and Statues 115.55-56.			

Ref #	Member Community Action	In Local Water Plan	Not in Plan, but city will complete as routine business	Page/section in Local Water Plan, if applicable
MC9	**Add the SRWMO onto distribution lists for development sketch plan reviews**. Consider, but not be bound by, SRWMO comments on development proposals.			
MC10	**Serve as the Local Governmental Units (LGU) administering MN Wetland Conservation Act** in SRWMO.			
MC11	**Fulfill the duties of MS4 permits with the State (for permitted communities only)**. Among these duties the SRWMO's priorities are: (1) inspection and maintenance of existing stormwater treatment, (2) map stormwater conveyance and treatment systems, and (3) ensure new development and redevelopment has the required stormwater treatment (4) sweep streets with curb and gutter once annually in all areas, and twice annually in priority areas. Priority areas shall be areas that drain directly to water bodies and/or natural wetlands without pretreatment of storm water runoff.			
MC13	**Condense all municipal stormwater standards or rules** that are currently in local water plans, storm water pollution prevention plans, ordinances or other documents and place them all (or links to them) in a single location.			
MC14	**Provide household hazardous waste disposal information on community websites**, ultimately directing residents to the Anoka County Household Hazardous Waste Facility.			
MC15	**Provide Anoka County Well Water Wise private well testing program** on community websites.			
MC17	**Preferentially consider applicants for SRWMO Board appointments who are members of stakeholder groups** such as lake associations or local elected officials. Final appointment decisions are always at the discretion of the appointing body.			
MC19 MC23	**Operate permitting programs**. Each member community will adopt, implement, and enforce ordinances that meet or exceed the standards in this Plan. Required ordinances include: • Septic system ordinance • Stormwater ordinance • Wetland ordinance			
MC20	**Obtain level 1 MPCA Smart Salting Certification for all snow plow drivers** within two years of adoption of this plan or their hire date.			

Ref #	Member Community Action	In Local Water Plan	Not in Plan, but city will complete as routine business	Page/section in Local Water Plan, if applicable
MC21	**Obtain level 2 MPCA Smart Salting Certification** (one certification per municipality) within two years of adoption of this plan. **Maintain level 2 MPCA Smart Salting Certification** by annually submitting Best Management Practices and Salt Savings report through the MPCA Winter Maintenance Assessment tool.			
MC22	**Utilize Atlas 14 precipitation data** when implementing stormwater or development ordinances.			
MC24	**Perform maintenance measures** to assure proper function of public drainage system, with the exception of County ditches which are managed by the Anoka County Highway Department.			

APPENDIX D:

GUIDANCE DOCUMENTS LIST

PROJECT PRIORITIZING, TARGETING AND FEASIBLITY STUDIES

SRWMO guidance documents. The following studies and reports are incorporated into the SRWMO plan by reference, were used in the development of this SRWMO Watershed Management Plan, and will be used guide implementation of this management plan. All will be posted in pdf form on the SRWMO website upon approval of this SRWMO plan. Additionally the original public source of the report is noted in the table below.

Guidance Document	Date	Description	Author(s)
Plans and Studies			
Lower St. Croix One Watershed One Plan	2020	An inter-jurisdictional management plan collaboratively created by counties and watershed organizations. It provides regional priorities and goals.	Local collaborative with funding from the MN Board of Water and Soil Resources
Sunrise River Watershed Restoration and Protection Strategies (WRAPS)	2014	This report included water monitoring, water quality analysis and modeling to recommend management actions. Complementary reports include a Sunrise River SWAT Modeling Report and others on the MPCA website for the Sunrise River Watershed. Available at MPCA website.	MN Pollution Control Agency and Chisago Soil and Water Conservation District
Sunrise River Watershed Total Maximum Daily Load	2014	This study estimated pollutant reductions needed at impaired waterbodies. Available at MPCA website.	MN Pollution Control Agency and Chisago Soil and Water Conservation District
Martin and Typo Lake Total Maximum Daily Load (TMDL)	2012	A study of excess phosphorus sources in Martin and Typo Lakes, and high pH and turbidity in the segment of the W. Branch of the Sunrise River in between. Includes pollutant source analysis, reductions needed to meet water quality standards, and an implementation plan. Available at MPCA website.	MN Pollution Control Agency and Anoka Conservation District
Lake St. Croix TMDL Study	2011	A study of excess phosphorus sources to Lake St. Croix. Includes pollutant source analysis, reductions needed to meet water quality standards, and an implementation plan. Available at MPCA website.	MN Pollution Control Agency
Sunrise River Watershed Study	2013	Part of the creation of a TMDL study for the entire Sunrise River watershed, this study includes fish and invertebrate inventories, geomorphic assessment, and creation of a Soil and Water Assessment Tool (SWAT) model. Management recommendations are included. Available at Chisago Co website.	US Army Corps of Engineers
Anoka Sand Plain Partnership 10-Year Strategic Conservation Action Plan	2019	An inter-jurisdictional management plan aimed to identify and implement projects that protect, restore and enhance the landscape through strategic actions and locations to maximize conservation goals. The plan highlights the ecological significance of habitats, groundwater recharge and water quality concerns in the SRWMO as regional priorities. This plan is used to guide priorities, goals, and actions to conserve and restore the natural resources in the region.	Local collaborative

Guidance Document	Date	Description	Author(s)
Anoka County Water Resources Report	2014	This is Anoka County's alternative to a groundwater plan. It includes county-wide information about groundwater issues. It also discusses the protection and management of surface water resources. Available at Anoka County website.	Anoka County
Anoka County Geologic Atlas	2015	A map-based report of geology and hydrogeology. Available at University of MN (part A) and DNR (part B) websites.	MN DNR and University of Minnesota
Project Prioritizing and Targeting Documents			
Multi-Purpose Drainage Management Plan – County Ditch 13	2025	This study identifies and ranks potential water quality improvement projects. Ditch 13 is in Isanti County, but drains to SRWMO priority waters including Typo Lake, Martin Lake, and the West Branch of the Sunrise River.	By ISG for the Anoka Conservation District
Linwood Lake Tributaries Water Quality Analysis	2024	This study reports on 2024 monitoring of tributaries, thereby identifying those subwatersheds that are priorities for management and suggesting BMP types.	Anoka Conservation District
Martin Lake Carp Management Report and Future Management Feasibility Assessment	2019	This study reports on carp management feasibility and compares it to other water quality projects on a cost effectiveness basis.	Carp Solutions LLC
Linwood Lake Carp Management Feasibility Assessment	2019	This study reports on carp management feasibility and compares it to other water quality projects on a cost effectiveness basis.	Carp Solutions LLC
Ditch 20 Wetland Restoration Feasibility Study to Benefit Downstream Water Quality	2018	This study identified, ranked and provided concept designs for wetland restorations projects upstream of Typo Lake. The projects are aimed at reducing phosphorus export to downstream lakes. Available at the ACD website.	Anoka Conservation District
Martin Lake Stormwater Retrofit Assessment	2011	This study identifies water quality improvement projects within the direct drainage area to Coon Lake. 15 projects are ranked by cost effectiveness at pollutant reduction. Available at ACD website.	Anoka Conservation District
Coon Lake Stormwater Retrofit Analysis	2014	This study identifies water quality improvement projects within the Coon Lake subwatershed. 30 projects are ranked by cost effectiveness at pollutant reduction. Available at ACD website.	Anoka Conservation District

APPENDIX E:

SRWMO SELF-EVALUATION TEMPLATES

To facilitate annual reporting and self-evaluation the SRWMO has prepared templates for self-evaluation of goals and implementation activities. The templates will be populated annually and used within annual reports to BWSR.

The templates are shown in their entirety here, but when populated annually the size of the cells will need to be larger to accommodate text. To manage space, only the most recent completed years will be shown in annual reports. The SRWMO will maintain a digital version of this template. That digital version will be updated according to any future plan amendments.

SRWMO Goals Evaluation Template

Year: _____

			Progress Description						
#	Goal	Related actions in the current year	Not applicable - No progress was planned by this time	Progress planned, but none achieved	Progress, but less than planned	Progress-ing as planned	Ahead of plan	✓ Goal Accomplished	Notes/Description
High Priority Issue Lake and Stream Water Quality									
G1	**Complete eight conservation plans by 2022 for landowners.** Highest priority properties are those with livestock/horses and sites within impaired waters' watershed. Work to be done by the BWSR/NRCS funded Watershed Conservation Planner housed at Chisago SWCD.								__of eight conservation plans done
G2	**Implement projects in five conservation plans** produced by the BWSR/NRCS funded Watershed Conservation Planner housed at Chisago SWCD. Funding sources may include federal agriculture programs or other existing programs.								__of five projects implemented
G3	**Create a new BMP incentives program to benefit lake water quality** that increases participation by increasing available funding and operating the program jointly with lake associations. The SRWMO will provide primary funding while the lake associations will, where willing, provide most promotion & outreach. Where lake associations do not participate the SRWMO will continue to directly offer cost share grants to homeowners.								Program created: yes/no. # projects funded: ____.
G4	**20% or less of lakeshore will be mowed turf to the water's edge or retaining walls.** When most recently inventoried in 2004 lakes had 20% (Linwood Lake), 24% (Coon Lake), 27% (Martin Lake), 37% (Fawn Lake), 4% (Typo Lake). **Install at least two lakeshore buffer or stewardship projects per year** to work toward this goal.								% mowed turf at each lake: ____. # lakeshore projects installed this year:__ and since 2020:__.
G5	**Manage carp in Typo, Martin, Linwood and Coon Lakes recreational lakes to 100/kg per hectare**, the threshold above which they are destructive to lake health. This is equivalent to 89 lbs/acre.								Describe lakes, carp biomass and progress toward goals.
G6	**Road deicing salt will be minimized** through training on effective, science-based deicing techniques.								See specific accomplishments in chlorides section below.
G7	**Work toward 20% phosphorus reduction within the SRWMO** to help meet the multi-agency St. Croix Basin TMDL 20% reduction goal for the entire Sunrise River watershed.								Estimates pollutant reductions In SRWMO: ___ and elsewhere in watershed: (see St. Croix Basin Team
G8	**Achieve pollutant reductions needed to get Martin and Linwood Lakes off the impaired waters list and work toward the reductions needed for other waterbodies.** See plan text for more detail on targeted pollutant reductions management strategies.								Projects and pollutant reductions: ____
G9	**Maintain Coon Lake water quality** through projects that offset landscape pressures that might cause eutrophication.								Coon Lake projects and pollutant reductions: ___

			Progress Description						
#	Goal	Related actions in the current year	Not applicable - No progress was planned by this time	Progress planned, but none achieved	Progress, but less than planned	Progressing as planned	Progressing, ahead of plan	✓ Goal Accomplished	Notes/Description
High Priority - Water Monitoring									
G10	Monitor the effectiveness of installed water quality projects (**effectiveness monitoring**).								Planned water monitoring (see table in plan)
G11	Diagnose water quality problems to inform management (**diagnostic monitoring**).								
G12	Detect changes or trends (**surveillance monitoring**).								
High Priority - Funding									
G13	**SRWMO continues to have approximately 50% of its budget grant funded**.	All							__% grant funded to date.
G14	**Maintain average annual budgets of local funds from member communities <$50,000 from 2020-2025 and <$60,000 from 2026-2030.**	All							Annual budget difference from target in current year: ___ and since 2020: ___.
G15	**Minimize budget variations amongst years.** This requires carrying a balance forward from lower expenditure years to pay for future higher expenditure years.								
G16	**Always have the 10% match required** to secure non-competitive Watershed Based Funding from the State Clean Water Legacy Fund.								Match shortfalls, if any: ___
G17	**Never ask member communities for additional funding** above an approved annual budget to cover unforeseen circumstances.								Special funding requests to cities, if any: ____
G18	**Solicit quotes for professional services** every two years.								Years quotes solicited: ___
High Priority - Communications with Member Communities									
G19	**City councils know about SRWMO projects.**								Describe outreach to
G20	**Annually deliver a written and in person report to city councils and town board.**								Written reports: __ of 4 member communities.
G21	**SRWMO board meetings are posted on each member community's calendar.**								__ of 4 communities' calendars.
High Priority - Outreach and Education									
G22	**Personal, relevant communications** for the key messages and timeline described in the plan text (section 7.5, goal 22).								Deviations from plan: ___
G23	**Diversify outreach methods**, using three different methods each year. Outreach methods shall be prioritized as follows: Highest priority and frequency: member community and lake association newsletters, SRWMO website, workshops, displays and personal interactions. Lower priority and frequency: signage in public places (especially for AIS prevention), direct mailings (for neighborhood-specific issues), social media (for current events items).								Outreach methods used, and frequency: ___
G24	**Consistent messaging across time and space**, including consistency with neighboring jurisdictions.								Describe actions: ____

			Progress Description						
#	Goal	Related actions in the current year	Not applicable - No progress was planned by this time	Progress planned, but none achieved	Progress, but less than planned	Progressing as planned	Progressing, ahead of plan	✓ Goal Accomplished	Notes/Description
G25	**SRWMO becomes a regular contributor to lake association newsletters.**								___ lake association newsletter contributions.
G26	**Promote every completed project** in the lake associations' newsletters, website, Facebook or similar.								__ of __ completed projects promoted.
Medium Priority - Aquatic Invasive Species									
G27	**Identify new infestations** early.								County AIS program
G28	**Contain or eradicate any small scale, newly discovered infestations**.								New infestations and actions: __
Medium Priority - Septic Systems									
G29	**Locate and fix** non-functioning septic systems.								__ located and __ fixed.
G30	**Annually promote to financial assistance** available through Anoka County and Anoka Conservation District for fixing non-compliant septic systems. The SRWMO's target audience is shoreland residents. Support any efforts to increase available funding, which is far less than need.								Program promotion: ___
G31	**Secure grant funds to** (a) develop, and set up implementation of, point of sale septic system inspection requirements. These requirements currently do not exist in Ham Lake or Linwood; (b) inspect shoreland septic systems older than 10 years or without a certificate of compliance in the last 10 years; and (c) assist East Bethel with developing an automated SSTS maintenance tracking and reminder system.								Grants sought or secured: ___
Medium Priority - Development									
G32	**Identify any undesirable natural resource impacts of proposed developments and recommended alternatives** early in the planning process.								__ development reviews.
Medium Priority - Multi-Partner Coordination									
G33	**Every SRWMO water quality improvement project has support from affected stakeholders** including member communities, lake groups, adjacent water management entities, or others.								Recent projects and their supporters: ___
G34	**Attend at least two stakeholder/partner events per year.** The most common example is lake association meetings.								Stakeholder events attended:___
G35	**Partner with Anoka County Parks on shoreline or stormwater demonstration projects.**								Projects progress: ___
Medium Priority - Stormwater Management									
G36	**City stormwater regulations are consistent** with SRWMO Stormwater Standards.								__ of 4 commmunities
G37	**City Stormwater regulations are all found in a single place.** Currently some may be distributed amongst local water plans, storm water pollution prevention plans, ordinances making it difficult for permitting staff and permittees to properly implement.								Cities that have consolidated regulations: ____

			Progress Description						
#	Goal	Related actions in the current year	Not applicable - No progress was planned by this time	Progress planned, but none achieved	Progress, but less than planned	Progressing as planned	Progressing, ahead of plan	✓ Goal Accomplished	Notes/Description
Medium Priority - Groundwater									
G38	**Residents are advised to test private wells regularly for contaminants**.								Describe outreach: ___
G39	**All irrigation systems will be "smart" by 2040**, providing water when needed based upon soil moisture and forecasted rain.								
G40	**Five residential or one larger "smart" irrigation systems will be installed** during the 10-years of this Plan, partially using SRWMO incentive grants. Larger irrigation systems include sporting fields, homeowner associations, schools, or other campuses.								__ of 5 residential and __ of 1 larger systems installed.
G41	**Prevent improper household hazardous waste disposal**.								Household hazardous waste disposal options and promo (
Medium Priority - Administrative Efficiencies									
G42	**SRWMO continues to spend <20% of its local funds on administration on average across years**. Administration, for this purpose, ,includes the following items for which the SRWMO has some control over costs: recording secretary, reporting, and administrative assistance.								__% of local funds spent on admin.
G43	**SRWMO will have a key contact perso**n that can be reached by the public or agencies.								Key contact person: ____
G44	**SRWMO meetings are efficient and occur no more than eight times per year.**								__ meetings this year.
G45	**Board members include representatives from key stakeholder groups** including lake residents and local elected officials.								Stakeholder groups represented on SRWMO Board: ____
G46	**Correct the SRWMO boundary.** Presently eight parcels that are part of the SRWMO are in an area that is discontinuous with the rest of the SRWMO. Corrections are needed with the Rice Creek Watershed District (RCWD) boundary. Starting in 2019 the RCWD is systematically examining hydrologic and political boundaries with the SRWMO. A petition to the state for boundary amendment is anticipated.								Boundary correction done: yes/no
Medium Priority - Chlorides									
G47	**Increase municipal snow plow drivers with level 1 MPCA Smart Salting Certification from one to 100%** of member community plow drivers.								__% of municipal snow plow drivers with level 1 certification.
G48	**Increase the number of member communities with level 2 MPCA Smart Salting Certification from zero to four (100%).** This is an organizational certification that requires completing an organizational salt saving assessment using the online Winter Maintenance Assessment tool.								__% of communities with level 1 certification.

			Progress Description						
#	Goal	Related actions in the current year	Not applicable - No progress was planned by this time	Progress planned, but none achieved	Progress, but less than planned	Progressing as planned	Progressing, ahead of plan	✓ Goal Accomplished	Notes/Description
G49	**Member communities' will have technology on board plow trucks** that helps ensure only the amount of deicing agent required to achieve safe roads.								Describe: ___
Lower Priority - Ditching/Drainage									
G50	**Ditch maintenance activities, if any, will not have a negative water quality impact** on downstream streams and lakes.								Describe: ___
G51	**Replace the deteriorating Linwood Lake outlet weir**, which is owned by the MN DNR. The structure is important to maintain lake levels.								Describe outreach to DNR: ___
Lower Priority - Climate Change									
G52	**Stormwater facilities should be designed to accommodate storm frequencies and intensities** in the most up-to-date climatological data: Atlas 14.								__ of 4 communities using Atlas 14.
Lower Priority - Water Quantity									
G53	**Hydrological systems will be managed to keep current discharge rates and volumes**.								__ of 4 with ordinances requiring pre- and post-
Lower Priority - Fisheries									
G54	**Reduce rough fish when they negatively affect water quality.**								See accomplishments in water quality section above.
G55	**Maintain strong pan fish populations** that will control spawning success of common carp.								Describe: __
G56	**Winter aeration systems will be used** where winterkills of game fish may occur. Loss of game fish affects recreational opportunities and lake water quality.								Aeration in operation at: ___.
Lower Priority - Wildlife Habitat									
G57	**Private and public owners of biologically significant areas will protect, enhance and/or maintain ecological integrity.**								Describe land protection or habitat maintenance: ___
G58	**Restore at least one wetland** in the SRWMO that benefits water quality and habitat.								Wetlands restored: ___

SRWMO Implementation Evaluation Template

#	Plan Action	Funding*	Estimated Expenditure																						TOTAL
			2020		2021		2022		2023		2024		2025		2026		2027		2028		2029				
			Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done			
Operating Tasks (as defined by JPA)																									
1	Recording Secretary services - contractual	SRWMO	$1,400		$1,449		$1,500		$1,552		$1,607		$1,663		$1,721		$1,781		$1,844		$1,908				$16,424
2	Administrator services - contractual	SRWMO	$6,000		$6,210		$6,427		$6,652		$6,885		$7,126		$7,376		$7,634		$7,901		$8,177				$70,388
3	Fiscal mgmt assistance - E Bethel Finance Director & Treasurer	SRWMO	Provided by East Bethel, no cost to SRWMO																						$0
4	Financial contributions calculation update	SRWMO	$320										$320												$640
5	Financial audits	SRWMO	$3,000										$3,563												$6,563
6	Liability Insurance	SRWMO	$1,850		$1,550		$1,581		$1,613		$1,645		$1,678		$1,711		$1,746		$1,780		$1,816				$16,970
7	Reports to BWSR, State Auditor	SRWMO	$1,100		$1,139		$1,178		$1,220		$1,262		$1,306		$1,352		$1,400		$1,448		$1,499				$12,905
8	Annual written communication to member communities	SRWMO	$600		$621		$643		$665		$689		$713		$738		$763		$790		$818				$7,039
9	Community ordinance reviews	SRWMO	$1,920																						$1,920
10	Review/approve community local water plans	SRWMO			$2,240																				$2,240
11	Seek bids for professional services	SRWMO			$100				$100				$100				$100				$100				$500
Non-operating General																									
12	Grant search and applications	SRWMO	$1,000		$1,035		$1,071		$1,109		$1,148		$1,188		$1,229		$1,272		$1,317		$1,363				$11,731
13	Undesignated reserve	SRWMO	$2,029																						$2,029
14	Update Watershed Plan	SRWMO																	$27,000		$27,000				$54,000
Communications with Member Communities																									
15	Project reporting to member communities	SRWMO	Included in project costs and project manager duties																						$0
16	Annual board member reporting to member communities	SRWMO	Provided by SRWMO board members																						$0
17	Project tours	SRWMO	$1,660										$1,850								$2,000				$5,510
Public Outreach																									
18	Lake association and community newsletter content	SRWMO	$920		$2,190		$1,168		$938		$2,184		$1,000		$820		$1,050		$860		$1,100				$12,230
19	Newspaper press releases	SRWMO	Included in project costs and project manager duties																						$0
20	Lakeshore restoration guidance materials	SRWMO					$3,300																		$3,300
21	Shoreland stewardship display	SRWMO	$2,520																						$2,520
22	Community event displays	SRWMO	Provided by SRWMO board members																						$0
23	Stakeholder event attendance	SRWMO	Provided by SRWMO board members																						$0
24	Workshops promotion	SRWMO					$815																		$815
25	Engage citizen leaders	SRWMO	Included in administrator duties																						$0
26	Websites	SRWMO	$700		$725		$750		$776		$803		$831		$860		$2,891		$921		$953				$10,210
27	Anoka Co Outreach Coordinator position	SRWMO			$2,500		$4,450		$4,606		$4,767		$4,934		$5,106		$5,285		$5,470		$5,662				$42,780
29	Advisory committees	SRWMO	Included in administrator duties																						$0
30	Promote Well Water Wise	SRWMO			$50		$52		$54		$55		$57		$59		$61		$64		$66				$518
Water Condition Monitoring																									
31	Water condition monitoring	SRWMO	$8,541		$16,446		$10,369		$9,125		$18,535		$9,775		$8,114		$17,780		$8,632		$11,217				$118,535
Development Reviews																									
32	Development reviews	MC**	$1,000		$1,000		$1,000		$1,000		$1,000		$1,000		$1,000		$1,000		$1,000		$1,000				$10,000
Multi-partner Coordination																									
33	Participate in 1W1P	SRWMO	$640		$662		$686		$710		$734		$760		$787		$814		$843		$872				$7,508

Appendix E: SRWMO Self-Evaluation Templates

SRWMO Implementation Evaluation Template (continued)

#	Plan Action	Funding*	2020		2021		2022		2023		2024		2025		2026		2027		2028		2029		TOTAL
			Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	Planned	Done	
Water Improvement Projects																							
34	Ag conservation planning outreach	SRWMO			$1,120		$1,120																$2,240
		Grants																					$0
34	Cost share grant program- open to the public	SRWMO	$2,000		$2,500		$1,500		$1,500		$1,000		$1,000		$1,000		$1,000		$1,000		$1,000		$13,500
		Grants																					$0
35	Cost share grant program - through lake associations	SRWMO					$7,500		$7,500				$3,500		$3,500		$3,500						$25,500
		Grants					$30,000		$30,000				$14,000		$14,000		$14,000						$102,000
36	Carp removals	SRWMO	$10,000		$7,500		$7,500																$25,000
		Grants	$40,000		$30,000		$30,000																$100,000
37	Stormwater retrofits	SRWMO	***																				$0
		Grants	$133,580																				$133,580
38	Ditch 20 wetland restoration outreach	SRWMO			$320				$343				$367				$393						$1,423
		Grants																					$0
39	Demonstration projects on public lands	SRWMO											$6,750		$6,750								$13,500
		Grants											$27,000		$27,000								$54,000
40	Support carp barrier annual maintenance	SRWMO	Included in administrator duties																				$0
		Grants																					$0
41	Model projects' pollutant reductions	SRWMO	Included in project costs and project manager duties																				$0
		Grants																					$0
42	Linwood Lake weir repair request	SRWMO	$0																				$0
		Grants																					$0
43	Point of Sale SSTS inspections	SRWMO																					$0
		Communities					$2,000																$2,000
		Grants					$8,000																$8,000
44	Projects identified in adopted guidance documents	SRWMO	$3,800		$0		$0		$0		$6,000		$0		$11,000		$14,500		$0		$0		$35,300
		Grants	$15,200								$24,000				$44,000		$58,000						$141,200
Studies and Inventories																							
45	Carp management feasibility and effectiveness studies	SRWMO	***						$4,000				$5,250										$9,250
		Grants	$21,420						$16,000				$21,000										$58,420
46	Lakeshore photo inventories	SRWMO	Provided by ACD in 2020												$2,000								$2,000
		Grants													$8,000								$8,000
47	Alum feasibility studies	SRWMO							$5,500		$5,500												$11,000
		Grants							$22,000		$22,000												$44,000
48	Linwood Lake subwatershed retrofitting study	SRWMO							$3,000		$2,000												$5,000
		Grants							$12,000		$8,000												$20,000